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ABSTRACT

A one-year follow-up study of a 1988 report on Wisconsin's internal "brain drain" indicates that the state's historic educational advantage is shrinking. Assessment of performance on the American College Testing Program (ACT), the Preliminary Scholastic Aptitude Test (PSAT), and the Scholastic Aptitude Test (SAT) reveals that scores are declining and approaching the national average. Wisconsin does not compare well with neighboring states in general academic preparation nor in opportunities for academically talented students. The following findings are discussed: (1) since few Wisconsin students take the ACT and SAT, it is misleading to compare Wisconsin's seemingly high ranking with states having much broader participation; (2) high school juniors in other states outperform those from Wisconsin on the PSAT, which is administered under uniform and comparable conditions and is taken by a high proportion of juniors; (3) Wisconsin's historically high scores on the ACT, PSAT, and SAT are declining; (4) surveys indicate a decline in citizen confidence in the state's public precollegiate education; (5) participation in the College Board Advanced Placement Program has increased greatly, but the percentage of students who took at least one examination decreased dramatically; (6) participation in the Midwest Talent Search has increased dramatically but a large gap remains between Wisconsin and several other midwestern states; and (7) significant numbers of the state's most able high school graduates are not targeted for recruitment by the state's public institutions of higher education, nor are they at an advantage for college admission nationally. Statistical data are included on 12 graphs. Two illustrations of a model of an integrated gifted education program are also included. A list of 18 references is appended. (FMW)

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WISCONSIN'S SHRINKING EDUCATIONAL ADVANTAGE:

THE INTERNAL "BRAIN DRAIN" REEXAMINED

UD 027 183

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Report from the Executive Director:

Recently Assembly Speaker Loftus pointed out that Wisconsin elementary and secondary schools are on the verge of becoming average. We felt that his observations were accurate and decided to find out whether the rest of the state tended to agree or disagree with his assessment. In a poll of 1001 randomly selected Wisconsin residents conducted in September of 1989, those people were asked whether they thought "Wisconsin's schools are becoming only average." Fifty-eight percent agreed that this was an accurate description of Wisconsin's schools and only 27% disagreed. What was interesting was that 73% of the residents between the ages of 18 and 24 agree with this assessment of Wisconsin's schools. These are the people in the state who age wise have been recently in direct contact with the school system.

This result was hardly surprising since over the last several years we have found in other surveys a growing uneasiness and skepticism toward the entire Wisconsin educational system. There is little doubt that part of the skepticism is an outgrowth of the national attention on the quality of American education verses other educational systems in countries such as Japan and Europe. Wisconsin residents are concluding that if American schools are substandard by international comparison, then Wisconsin must be part of the problem rather than being immune to it.

What is most disturbing is the unwillingness on the part of the educational leadership in this state to come to grips with some of the questions that other states are now dealing with in terms of educational reform and educational improvements. While neighboring states such as Minnesota, Illinois, Iowa, and Michigan design new programs, ideas and plans, Wisconsin claims that its educational system is number one, while refusing to recognize that there are some serious problems that deserve immediate attention.

Last year the Legislative Auditor for the state of Minnesota issued a report on the conditions of the quality of education in Minnesota's public high schools. The report noted, "Among the fifty states, Minnesota ranks high for its college admission test scores, graduation rate, and low pupil-teacher ratio, among other positive accomplishments. However, we found strong evidence that Minnesota's reputation is overstated and out of date."

One suspects that if Wisconsin were to have this kind of non-biased study, much the same would be found in the Wisconsin system.

Our study updates a report that was released a year and a half ago. It again notes that Wisconsin education, in terms of quantitative results, continues to slide into mediocrity. It is hoped that this report makes some of the leadership in the educational establishment aware that rhetoric is not going to solve the problems of education, either nationally or in Wisconsin.

James H. Miller

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WISCONSIN'S SHRINKING EDUCATIONAL ADVANTAGE: THE INTERNAL "BRAIN DRAIN" REEXAMINED

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WISCONSIN'S SHRINKING EDUCATIONAL ADVANTAGE:

THE INTERNAL "BRAIN DRAIN" REEXAMINED

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INTRODUCTION

For a strong future, Wisconsin must develop fully the educational potential of its youth and retain or attract the most talented as future state leaders.

A 1988 report, Wisconsin's Internal Brain Drain: The State's Most Valuable--and Undeveloped--Resource, sponsored by the Wisconsin Policy Research Institute, stated that these goals were not being met. 1989 finds that the indictment holds and that new information suggests a shrinking of Wisconsin's historic educational advantage in comparison to other states. In several important areas of achievement, college-bound Wisconsin students continue to rank well behind their peers in other states, and, where a distinctive lead is claimed, that advantage is misleading or gradually shrinking. Among the most gifted Wisconsin students, significant numbers leave for higher education elsewhere, unfortunately without an apparent sustained and sufficient effort of Wisconsin public institutions to compete for them.

Educators, parents and elected state officials confront four challenges. First, they must discard the unwarranted complacency and self-satisfaction which exists in many quarters as to the effectiveness of the state's schools. Second, they must address what amounts to an internal brain drain and shrinking advantage, with too few of the state's college-bound children reaching full potential. Third, they must financially support efforts such as those proposed by the state's Department of Public Instruction in 1988/89 to institute rigorous and systematic gifted and talented initiatives, which to date the State Legislature has been unwilling to adequately back. Fourth, they must determine if, as some perceive, Wisconsin is also witnessing an external brain drain with a disproportionate share of the most talented high school seniors leaving the state, and, if this is the case, offer incentives to keep the students or attract outstanding students from other states.

An overview of current Wisconsin attitudes and practices reveals misguided assumptions, ignorance and general inaction in the face of these challenges. This was the same description rendered in 1988, although since the issuance of Wisconsin's Internal Brain Drain a number of highly laudable proposals have been drafted to deal with some of the stated deficiencies. Unfortunately, these efforts are frustrated by key segments of the state leadership denying sufficient financial resources to advance substantial improvements. This condition stands in sharp contrast to the neighboring states of Michigan, Minnesota, and Illinois, as well as numerous others where the educational system is seen as the focus of fundamental reform for meeting future social and economic challenges. An investment in education now is seen in these states as a savings later.

One explanation for Wisconsin's circumstance in 1988 was complacency, and it remains so in 1989. This judgement is based on indicators of educational achievement, which might lead one to conclude that Wisconsin students are superior to those from most other states, since for at least the last decade Wisconsin's scores have been well above the national average. These supposed indicators of high achievement are test results from The College Board Scholastic Aptitude Test (SAT) and the American College Test program (ACT).

A more thorough assessment reveals a conflicting conclusion to that offered by SAT and ACT test scores and even reveals Wisconsin's nationally standardized precollegiate examinations losing ground and approaching the national average. These examinations include the SAT, ACT and PSAT.

Further, in the context of efforts which characterize other state's activities, Wisconsin does not fare well either in the general level of academic preparedness nor in its efforts to match

its brightest youth with rigorous opportunities to foster emerging talent at an early age. These opportunities include: College Board Advanced Placement programs, gifted and talented initiatives, academic competitions, Talent Searches and other special education initiatives.

SUMMARY OF FINDINGS

The conclusions and recommendations advanced in this study on data available one year following the 1988 report, Wisconsin's Internal Brain Drain, are premised on the following findings:

1. Relatively few Wisconsin students take the ACT and SAT tests. It is therefore misleading to compare Wisconsin's seemingly high ranking with states having much broader student participation.

    a. Only slightly more than one-half (50.4%) of the state's graduating seniors take the ACT test. Of the 28 states using the ACT as the primary test, only 4 have a lower participation rate.
    b. Only 14% of Wisconsin's seniors take the SAT test. In 32 states and the District of Columbia, the rate is higher. In 17 states and the District, more than 50% participate.

2. High school juniors in most other states outperform those from Wisconsin on The College Board's Preliminary Scholastic Aptitude Test (PSAT), which is administered under more uniform and comparable conditions than either the ACT or SAT. Because the PSAT also serves as the National Merit Scholarship Qualifying Test, it is taken by a high percentage of college-bound juniors to qualify them for college scholarships and to plan the remainder of their high school education.

    a. Among the 50 states and the District of Columbia, only 20 ranked lower than Wisconsin on the PSAT selection index.
    b. Most of those ranking below Wisconsin are not noted for significant academic accomplishment at the elementary and secondary level.
    c. Among Midwestern states, Wisconsin ranked: somewhat better than Indiana, Iowa and Michigan; equal to Ohio; and, below Illinois and Minnesota.

3. Wisconsin confronts a shrinking advantage of its historically high scores on nationally standardized college preparatory examinations--the ACT, SAT and PSAT--bringing it gradually closer to the national average.

    a. From 1982 to 1988 Wisconsin records the second greatest decrease in composite score (-0.2) among the 28 ACT primary states. During this same period the U. S. average in score change was +0.4.
    b. Between 1971-72 and 1987-88 Wisconsin's average SAT-V score declined from 502 to 473 and the average SAT-M score fell from 543 to 534. In total the state experienced a 38 point loss. In contrast, the nation during this same period experienced only a 33 point loss.
    c. From 1979 to 1989 Wisconsin PSAT verbal scores decreased by .7 while the national score increased by .4; the state PSAT mathematical scores decreased by 1.5 while the national scores increased by .3.

4. The state confronts a shrinking advantage with respect to its citizens' confidence in public precollegiate education. Surveys of a representative sample of some 3,000 Wisconsin citizens disclose:

   a. By a margin of 47% to 45%, respondents believe that they received a better education in elementary and secondary school than do students today.
   b. Overall, 34% believe that their own education was better than that of their children, as contrasted to 26% who view their own education as worse.

5. Wisconsin's participation rate in recent years in The College Board Advanced Placement Program, through which high schools establish a reputation for teaching rigorous academic subjects, increased greatly; however, at the same time it decreased dramatically in the percent of high school graduates who took at least one AP examination, meaning fewer people took more exams.

   a. From 1984 to 1989 the nation has increased 93.26% in the number of examinations taken by students; Wisconsin has increased by 151.50%. From 1984-89 the nation has increased by 39.69% in the number of schools who have become involved in the AP; Wisconsin has increased by 122.58%.
   b. In 1988 Wisconsin ranked 46th among all states with regard to Advanced Placement candidates as percent of high school graduates. A strikingly low 3.4% of Wisconsin's high school graduates are AP candidates. Only the states of Iowa, Arkansas, South Dakota and North Dakota ranked lower.
   c. Wisconsin has actually lost ground nationally in its AP activity measured as a percentage of high school graduate participation since 1982. In 1982 the national percentage of Advanced Placement candidates as a percentage of high school graduates was 4.7% with Wisconsin registering at 1.0%, thereby tying for the 42nd place with Wyoming. Therefore, there was a 3.7% differential in 1982 between Wisconsin and the nation. In 1988 the national percentage of high school graduates was 10.6% with Wisconsin registering a 3.4%, thereby holding a 46th ranking. The differential in 1988 between the nation and Wisconsin is 7.2%, an increased deficit of 3.5% between 1982 and 1988.

6. Following the release of the 1988 report, Wisconsin's Internal Brain Drain, participation in the regional Midwest Talent Search (Northwestern University), a model used by many states with significant success, increased dramatically. Even with this improvement, however, a large gap remains between Wisconsin and several other midwestern states.

   a. Participation of Wisconsin in the Talent Search among other midwestern states rose 3% from 4.4% last year to 7.4% in 1989.
   b. Despite this excellent improvement in Talent Search participation, Wisconsin still has to increase its participation by 18.7% to match Indiana, 26.3% to match Michigan, and 17.3% to match Ohio.

7. Of the most able Wisconsin high school graduates, a recent study reveals that a significant number are not the subject of rigorous recruitment by the state's public institutions of higher learning, nor are they at an advantage for college admission in a national context.

a. Outstanding Wisconsin high school seniors who have taken the standardized tests receive considerably more attention from out-of-state colleges, followed by private in-state colleges, then public institutions.
b. But only about 60% of the state's most outstanding high school graduates take the ACT, and less than a third take the SAT. Failure to take one of these admissions tests--and a large number do not take either one--seems to restrict their college options.

CONCLUSIONS

An internal brain drain continues to exist in 1989, a year after it was first characterized and reported.

The state continues to be threatened by a fundamental and deep-rooted "brain drain" which Wisconsin in 1989 still appears to not understand or be willing to combat imaginatively and with all resources available. Like a high land mass gradually eroding, Wisconsin's historic educational advantage at the precollegiate level slips away gradually and sinks closer to the national average. The threat is an internal "brain drain" and shrinking advantage, occurring much earlier than university study and systematically restricting a high proportion of Wisconsin's bright and talented youth to the unspent development of their talents and abilities. By the time university study is even a possibility the damage has been done.

Through a lack of directed and sustained attention to the precollegiate level of education, the maximum number of bright youth who could potentially contribute to the enhancement of the social, cultural, and economic climate and development of the state and who could become its most talented citizens is already rendered unprepared for the challenges they will face.

The evidence is substantial. Taken singularly, it might seem only suggestive; but in the aggregate, and viewed over time, a definite pattern emerges. It is a statewide problem extending well beyond the more widely recognized lack of achievement in the largest urban schools.

The state's leadership must address this situation if Wisconsin's goal of a competitive economic and social future is to be realized and if a stagnant, even shrinking, educational advantage is to be halted. Complacency must be replaced by an aggressive, sufficiently financed program to lift the performance of all Wisconsin youth by setting higher standards of performance and accountability.

In Wisconsin's Internal Brain Drain, a January 1988 public opinion survey, conducted by the Gordon S. Black Corporation for the Wisconsin Policy Research Institute, was cited to express the support that the state's political and educational leadership could expect from a majority of Wisconsin citizens, who in fact appear to be more cognizant of the problem than the leadership itself. An April 1989 summary report by Gordon S. Black entitled, The Lack of Confidence in Public Education in Wisconsin: A Survey of How 3,000 Wisconsin Residents View Public Education in Wisconsin (also issued by the Wisconsin Policy Research Institute), reaffirms dramatically that a majority of the state's citizens lacks confidence in the education their children are receiving. Based on a total of over 3,000 interviews conducted in 1988 and 1989 and representative of the population of Wisconsin, the report concluded that:

- Although widespread support for public education remains, the public has significant doubts about the quality of education in Wisconsin. These same citizens would support a number of reforms aimed at changing the structure, character and accountability of the primary and secondary educational systems.

- If parents did not have to pay extra for private or parochial schools, statewide only 48% of the people in 1988-89 would send their children to public school, with an equal number who would choose private or parochial schools.

- By a margin of 47% to 45%, respondents believe that they received a better education in elementary and secondary school than do students today.

- Overall, 34% believe that their own education was better than that of their children, as contrasted to 26% who view their own education as worse.

Even in the area of citizens' confidence in public education, Wisconsin's historic advantage is shrinking.

As a consequence of findings in last year's report, Wisconsin's Internal Brain Drain, and in this report one year later, as well as in response to scientifically measured public opinion, the foundation continues to exist for state leaders to initiate a radical change in attitude and practice. Neighboring states such as Minnesota have publicly and courageously acknowledged their similar problems, promoted public debate and offered solutions. The message to Wisconsin leadership persists loud and clear; the reception apparently is garbled, misunderstood or lost. Inaction will permit the internal brain drain and shrinking advantage to continue, resulting in the neglect and consequential loss of the state's most talented youth even before university study.

SECTION ONE

THE SHRINKING ADVANTAGE: WISCONSIN'S STANDARDIZED TEST EXAMINATIONS-- SAT AND ACT

In the 1988 report, Wisconsin's Internal Brain Drain: The State's Most Valuable--and Undeveloped--Resource, a general assumption that the State of Wisconsin enjoys a high level of educational accomplishment for its children and that its bright young people are extremely well-served, often in contrast to many other states, was the subject of considerable critical attention. Particular emphasis in this discussion was placed upon two nationally standardized precollegiate examinations--The College Board Scholastic Aptitude Test (SAT) and American College Testing program (ACT).

Normally, a commentary upon the quality of education would refrain from viewing standardized examinations as single indicators of, as in this case, a state's educational system. The National Merit Scholarship Corporation (NMSC), which conducts competition of which the PSAT (another nationally standardized examination for precollegiate youth) is an integral component, states explicitly ". . . NMSC continually points out that Merit Program data are not valid indicators of educational quality of states, regions, or schools. NMSC cautions news media and all others against making comparisons based on the number of students honored in the Merit Program; when this has been ignored, erroneous conclusions have resulted--to the detriment of those compared and NMSC." The College Board and the American College Testing program issue similar strong warnings about misuse of the examinations as sole indicators of educational quality.

However, in the case of the State of Wisconsin, comment upon standardized examinations as a measure of educational quality, given the state's publicly stated use of SAT and ACT scores for this very purpose, is invited. For example, in a Department of Public Instruction press release dedicated to 1986-87 Wisconsin high school senior scores on the ACT and SAT, State Superintendent Herbert J. Grover was quoted as saying in announcing the results that, "Given the high level of scores, this is more than encouraging; it is a testament to the high quality of education being offered to Wisconsin students."

The same logic and profile which characterized treatment of 1987 SAT, ACT and PSAT scores for the state of Wisconsin in the report, Wisconsin's Internal Brain Drain, holds for 1988.

SAT and ACT scores among Wisconsin students in 1988 could lead one to conclude that Wisconsin is offering its students an exemplary precollegiate education. State Education statistics (prepared by the U. S. Department of Education, Office of Planning, Budget and Evaluation, 1989) lists Wisconsin as second in the nation for high school senior composite ACT scores among the 28 states for whom the ACT is the primary college-bound standardized test used by high school graduates within a state (see Illustration 1).

The inappropriateness of assessing Wisconsin's education system on the basis of SAT and ACT scores, however, is quickly apparent after further analysis. To evaluate the significance of ACT and SAT test scores, and particularly to compare state scores, one should know whether:

1. the sample of students taking the test within a state is representative; and,

2. the sample of students between states being compared is likely to be similar.

1988 ACT Composite Scores

ranking by state (states whose primary examination is the ACT)

Illustration 1:
Composite ACT Scores by State

Compiled from:
State Education Statistics
The U.S. Dept. of Education
Office of Planning, Budget and Evaluation
February, 1989

Measured against each of these criteria, Wisconsin's supposed superior rankings are highly questionable.

Consider first the ACT scores in 1988. Slightly more than half of the state's high school seniors take the test. Given that they represent those aspiring to higher education, there is no basis to believe that the sample in Wisconsin (or in other states) is broadly representative of high school academic performance.

If the test results aren't representative of achievement within a state, can they not still be compared with other states? Decidedly not, at least where high school senior participation rate is quite high or low. It obviously would be inappropriate and misleading to compare one state's college-bound students with those in another state if the percentage of seniors taking the test differed markedly. Wisconsin's high ACT ranking, for example, must be discounted significantly by the relatively small percentage of graduates who take the test. Of the 28 states where the ACT is the primary college-bound test, only four rank lower than Wisconsin's 50.4% participation rate. Participation rates among the 28 ACT states range from a high of 72.8% (North Dakota) to a low of 36.8% (Arizona) (see Illustration 2.)

Regarding the SAT, Wisconsin's supposed number 8 ranking is rendered almost meaningless by virtue of the fact that only 14% take the test. The participation rate in 32 states and the District of Columbia is higher, sometimes several times so (see Illustrations 3 and 4.)

According to the U. S. Department of Education, Office of Planning, Budget and Evaluation, participation rates of 30% or more in this context assume statistical significance and contribute to removing bias in the data. Given this position by the Department of Education, a statement contained in a 1987 Wisconsin Department of Public Instruction press release concerning ACT and SAT scores appears at once puzzling and misleading: "Among states in which 10% or more of twelfth-graders took the SAT, Wisconsin students ranked first in the nation--the fourth straight year they have achieved the top ranking." When this statement was made, only 15% of Wisconsin seniors took the SAT--at a rate of statistical insignificance, according to the U. S. Department of Education. One wonders why Wisconsin officials somewhat arbitrarily chose to "begin counting" at 10% participation or more when those below 10%, some with higher scores than Wisconsin, and Wisconsin with only 15% participation, are equally statistically insignificant. One is led to suppose that Wisconsin officials' desire to present the state's SAT scores to its public as "first in the nation" (and given previous comments relating high SATs to a high quality of education) causes them to select an SAT percentage of national cut-off score where it indeed results in Wisconsin appearing as the "leader", regardless of issues of validity or statistical significance.

A more disturbing comment upon the sustained quality of precollegiate education in Wisconsin emerges when one applies an analysis issued in December 1988 by the Office of the Legislative Auditor in neighboring Minnesota. The study was entitled High School Education.

In an attempt to ensure that its educational decision-making process and quality profile in the context of educational reform were proceeding without illusion, the authors conclude, "The report does not describe a crisis in education in Minnesota, but its message is sobering: Minnesota's educational advantage has been slowly eroding."

An integral part of the Minnesota analysis was an examination of precollegiate standardized test scores in relationship to national trends. For example, it was found that Minnesota's

1988 ACT

Percent of High School Graduates Taking Test (Est.)

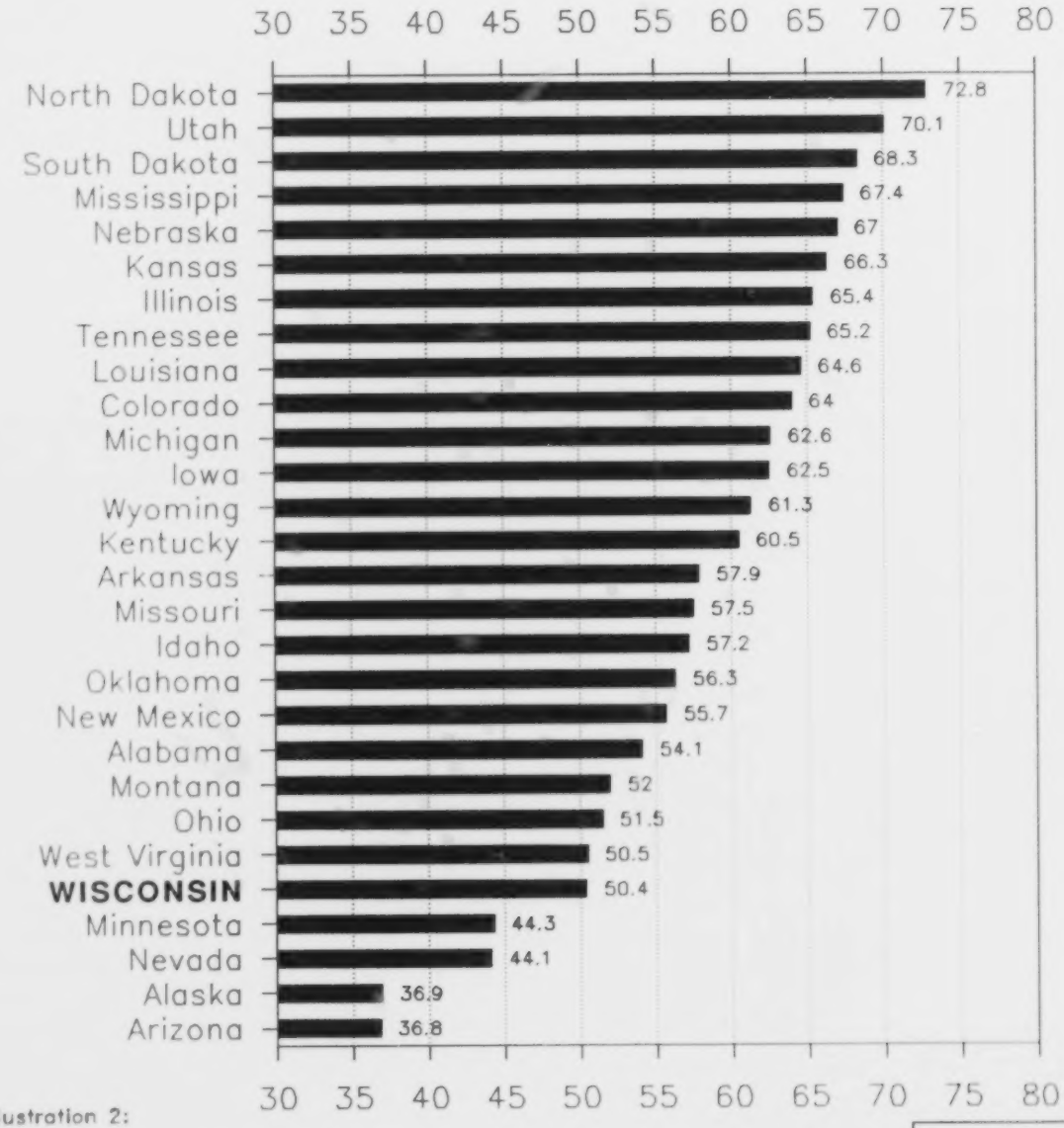


Illustration 2:

Percentage of 1988 High School Graduates Taking ACT by State When Test is Primary College-bound Assessment Instrument

Compiled from:
State Education Statistics
The U.S. Dept. of Education
Office of Planning, Budget and Evaluation
February, 1989

1988 SAT Composite Scores

ranking by state

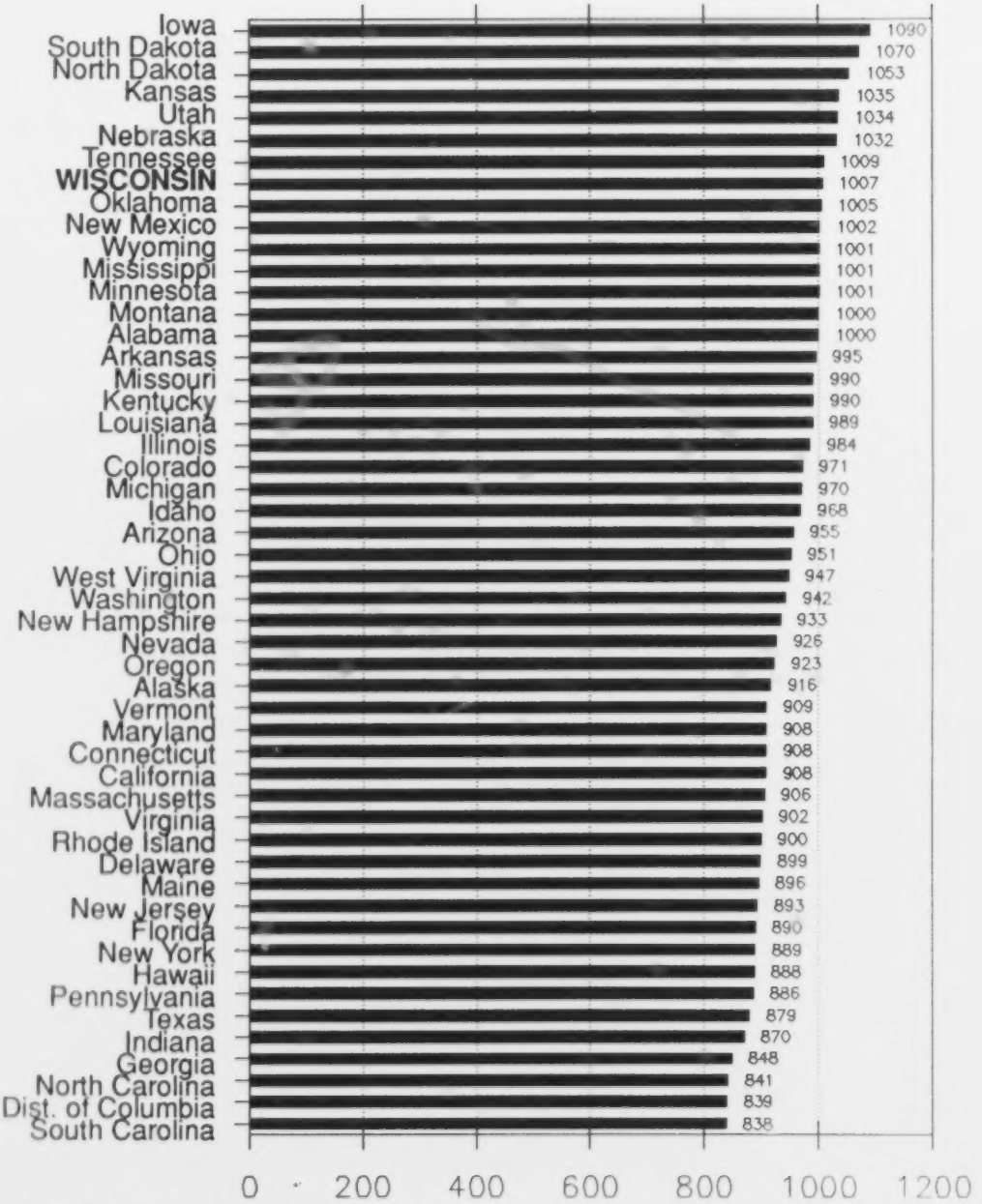


Illustration 3: 1988 SAT Average Combined Verbal and Mathematics Scores by State

1988 SAT

Percent of High School Graduates Taking SAT (Est.)

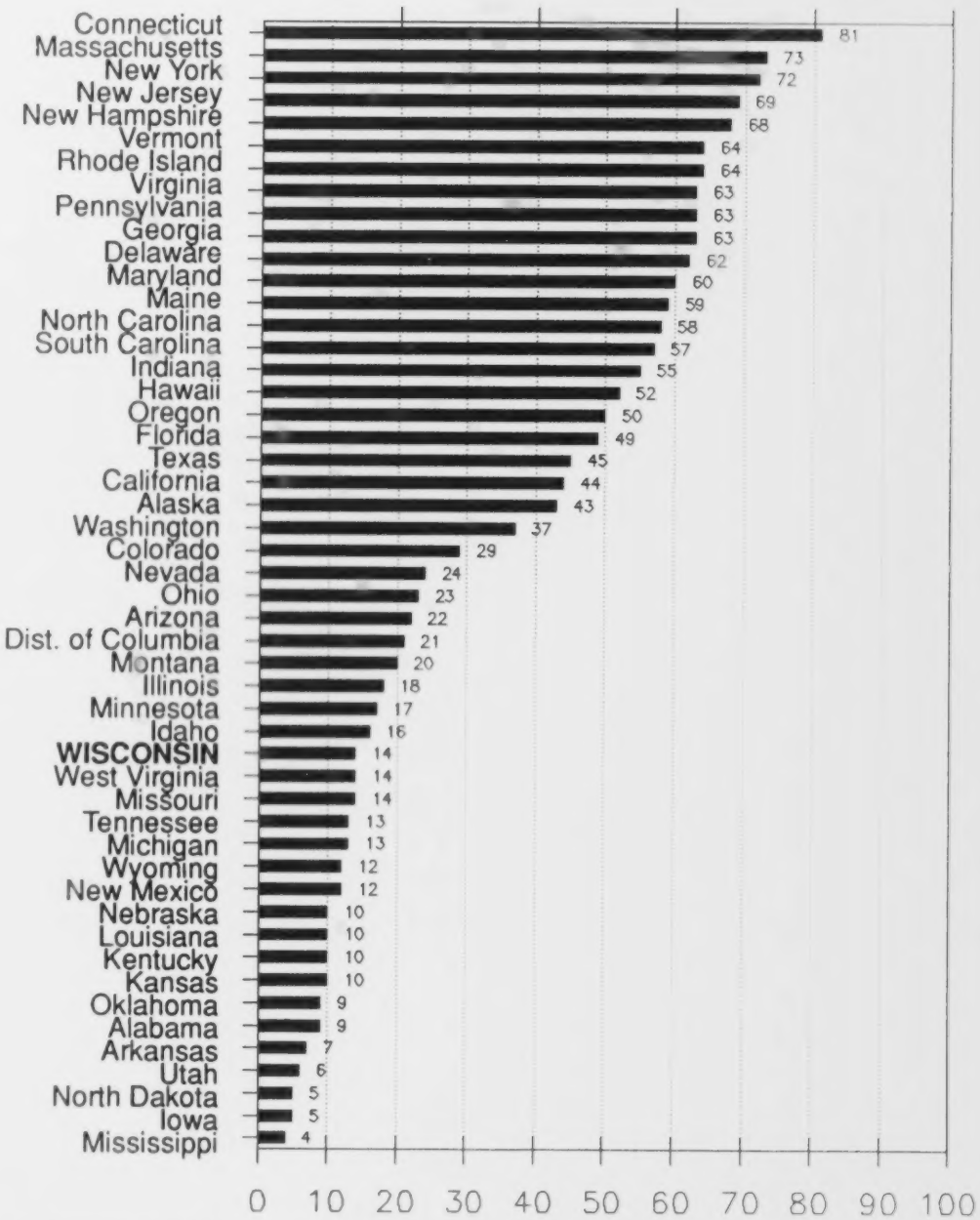


Illustration 4: Percent of 1988 High School Graduates Taking SAT (Est.)

composite ACT score in 1988 dropped to its lowest point in 21 years, while nationwide composite scores continued to increase as they had since the school year ending in 1983. Minnesota's margin of advantage in comparison to the rest of the nation was, therefore, narrowing in recent years. In addition, while Minnesota's SAT scores tend to be higher than average, Minnesota, as of 1987-88, had experienced a greater loss of points on the SAT than the nation as a whole. Again, Minnesota's margin of advantage narrows.

An analysis of Wisconsin's margin of advantage with regard to its SAT and ACT scores should cause alarm similar to that evoked in Minnesota a year ago.

Like Minnesota, Wisconsin's ACT and SAT scores tend to be higher than average. However, from 1982 to 1988 Wisconsin records the second greatest decrease (-0.2) in composite score among the 28 ACT primary states (see Illustration 5). During this same period the U. S. average score change was +0.4. Although Wisconsin continues to be near the top of the 28 ACT states, its test scores have shown no improvement since 1982. Wisconsin's advantage is shrinking.

The situation with the SATs is even more dramatic. Again, Wisconsin's SAT scores tend to be higher than average. In 1987-88, for example, Wisconsin's SAT-Verbal score was 473 and SAT-Mathematics score was 534. In contrast, the SAT-V national mean was 428 and SAT-M was 473. However, between 1971-72 and 1987-88 school years (see Illustration 6) Wisconsin's average SAT-V score declined from 502 to 473 and the average SAT-M score fell from 543 to 534. In total the state experienced a 38-point loss over the period.

The national score in mathematics in 1987-88 is eight points below the 1971-72 level and the verbal score has dropped 25 points for a total loss of 33 points.

In both the verbal and mathematical portions of the SAT, Wisconsin has experienced a greater loss of points on the examination since 1971 than the nation as a whole. Again, national SAT scores dropped 33 points from 1971-72 through 1987-88; Wisconsin's SAT scores dropped 38 points. Wisconsin's historic educational advantage is shrinking.

During the early 1980s nationwide mathematics and verbal SAT scores increased, even though the proportion of test takers rose from about 30 percent to 40 percent, and scores would be expected to decline as a result. Research has shown that scores tend to go down when participation increases. However, from 1981-82 to 1987-88 participation nationwide in the SAT rose 14%; in Wisconsin participation rose only half as much, 7%, and yet, while the national SAT score improved 12 points over this period, Wisconsin scores declined 4 points. A claim that increased participation in the SAT for Wisconsin inhibited score improvement simply does not hold. In addition, most of the decline in Wisconsin's total SAT scores occurred between 1971-72 and 1982-83, while test participation was constant or declining. Scores began to increase in 1983-84 when participation slightly outpaced the 1971-76 rate high of 8,510.

As in the state of Minnesota, Wisconsin students who are considering selective colleges and universities outside the Midwest usually comprise the small percentage of SAT test takers. In contrast, as noted in the Minnesota report, more than 70 percent of all Massachusetts and Connecticut seniors take the SAT. Because of such differences in participation, The College Board releases SAT scores for each state but cautions against blanket comparisons (see, for example, College Board, 1988 Profile of SAT and Achievement Test Takers [New York, 1988], iii). This Wisconsin study concurs with the position taken by the authors of the Minnesota report, High School Education, and generally agrees with The College Board perspective of the use of score results for comparison among states, excepting limited

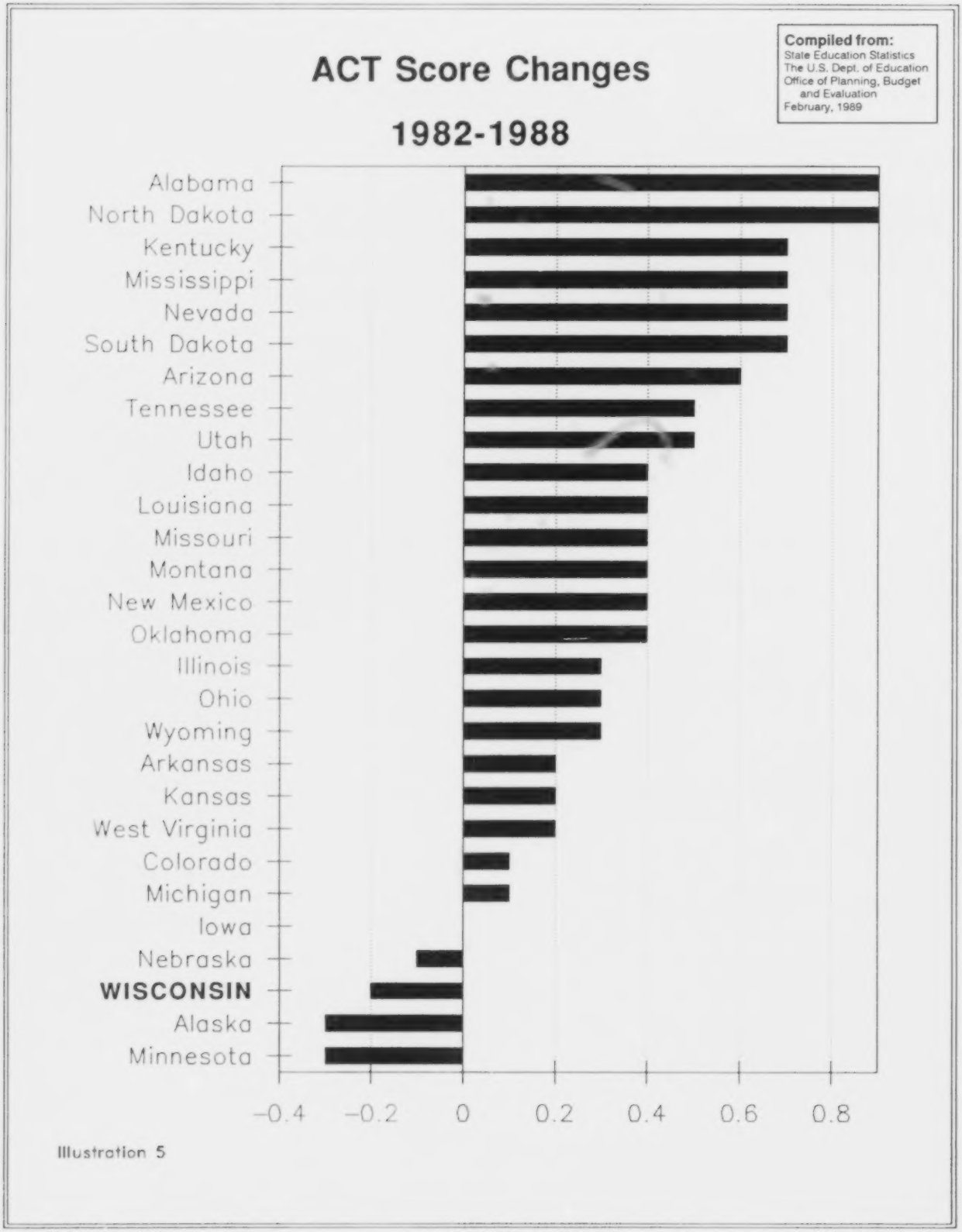


Illustration 5

SAT Scores for Wisconsin
1971-72 to 1987-88

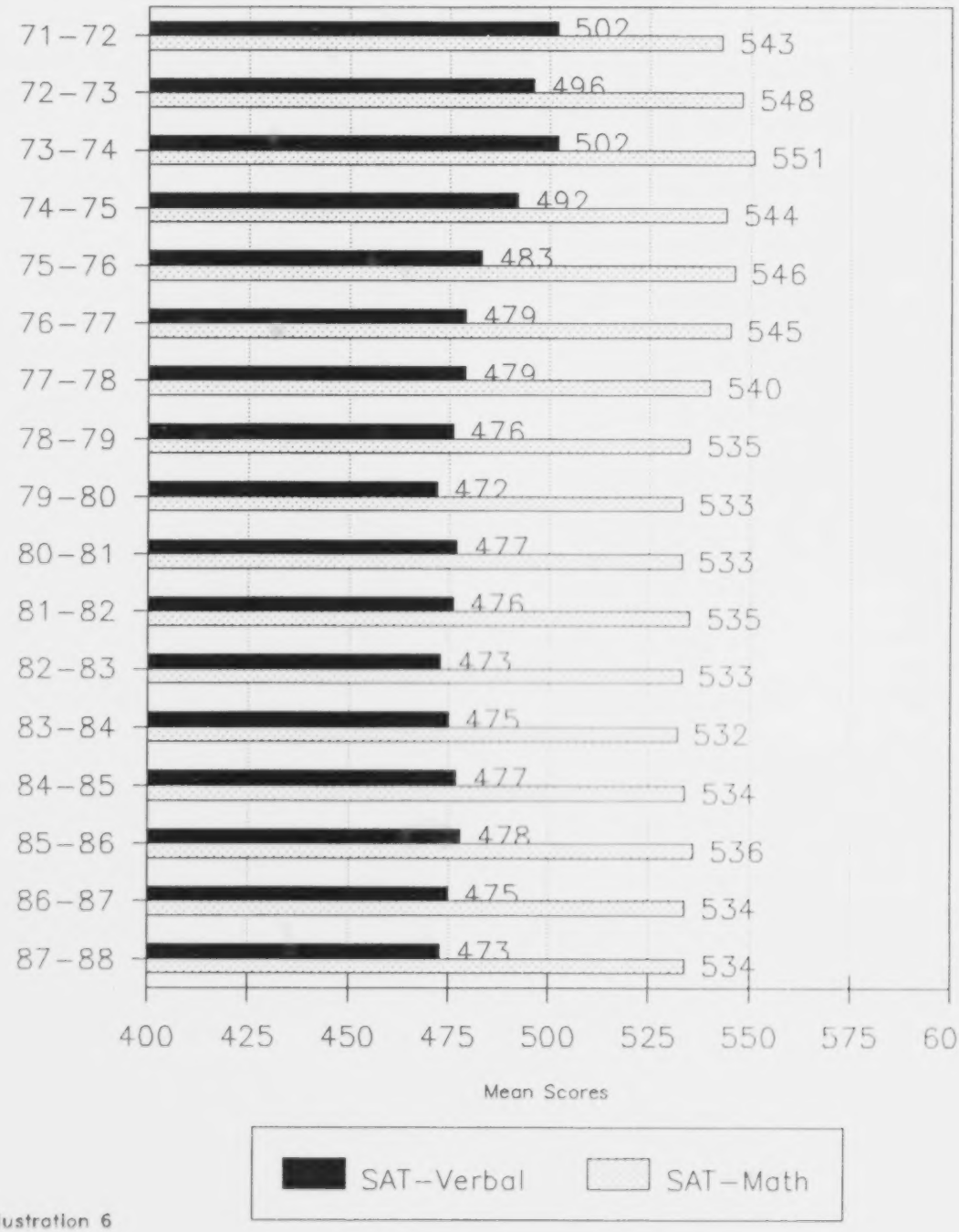


Illustration 6

Compiled from:
Information prepared by
The College Board
Midwestern Regional Office

comparisons to the nation and to similarly geographically situated states which have similar population characteristics and low participation rates. When such a comparison of SAT performance over a decade is performed among such similarly situated states as was done in the Minnesota report, where Wisconsin is naturally included in the analysis, the results are again both revealing and alarming.

The 1987-88 SAT results in the five comparative states--Iowa, North Dakota, South Dakota Wisconsin and Minnesota--show that Iowa students earned the highest average scores followed by South Dakota and then North Dakota students. SAT scores were similar and lower in Minnesota and Wisconsin.

Over the past decade scores have increased in Iowa, and that state retained a relatively high ranking among its neighbors (see Illustration 7). Scores in North and South Dakota dropped substantially but remained high enough to put those states in second and third places. Wisconsin's scores in 1976-77 as well as in 1981-82 were the lowest of the five states. In 1987-88, SAT scores continued their decade-long decrease and would have again claimed the lowest ranking among its neighbors were it not for the even more dramatic drop of Minnesota's scores and its taking over last place. Nevertheless, Wisconsin during the decade 1976-77 through 1987-88 has steadily come closer to the national average and in so doing is again losing its historic educational advantage.

Officials of the public sector in Minnesota have boldly revealed their shrinking advantage and confronted a stirring debate about the responsibility of educational improvement and reform. In contrast, Wisconsin witnesses an oddly different approach to the shrinking advantage detailed above. In a Department of Public Instruction press release of September 21, 1987, Superintendent Herbert J. Grover states "Little or no change in scores has occurred over the past ten years . . ."

Composite SAT Scores for Wisconsin and Neighboring States 1977-1988

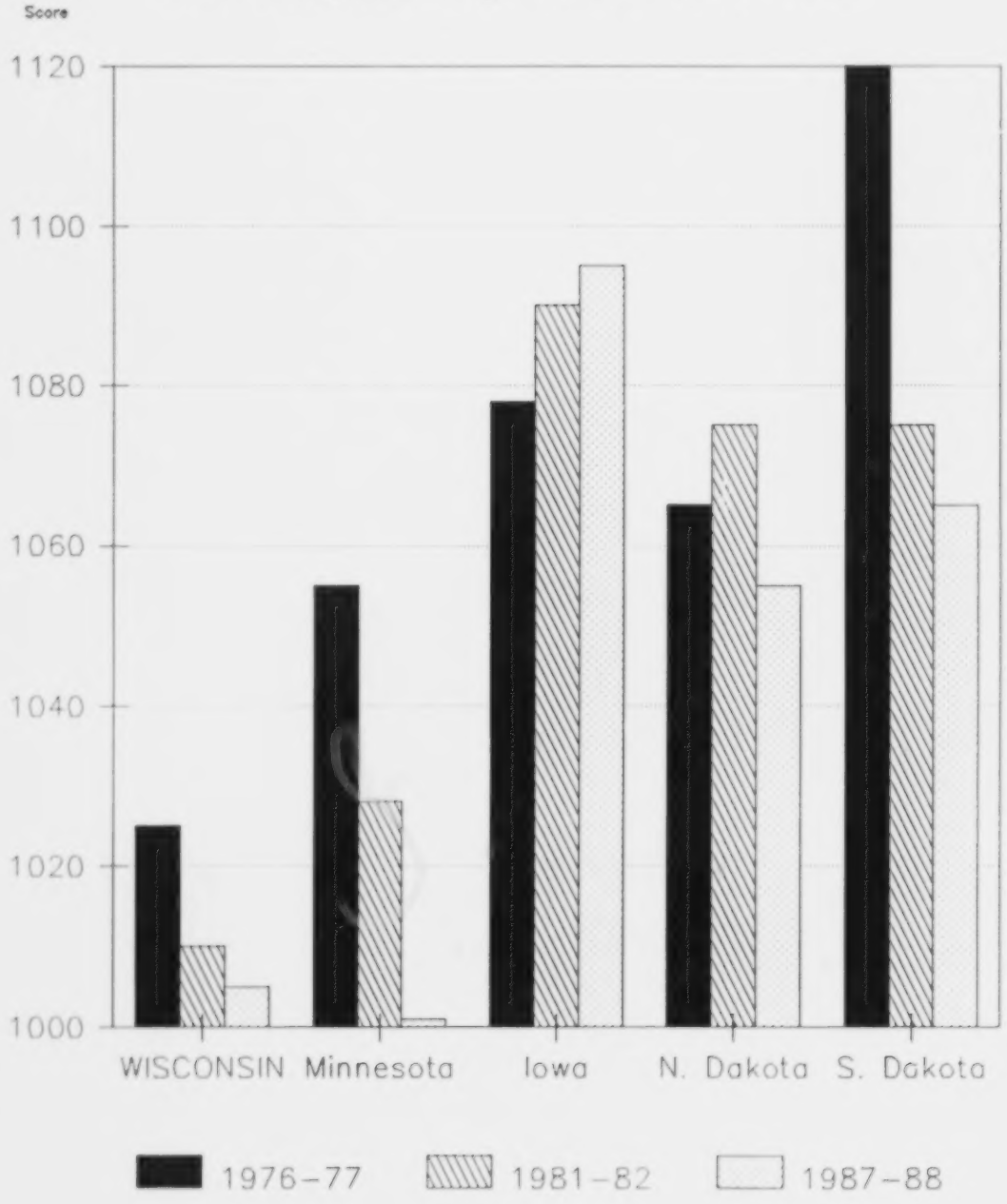


Illustration 7

Compiled from:
Information prepared by
The College Board
Midwestern Regional Office

SECTION TWO

THE SHRINKING ADVANTAGE: A DIFFERENT PERSPECTIVE - THE PRELIMINARY SCHOLASTIC APTITUDE TEST (PSAT)

In the 1988 report, Wisconsin's Internal Brain Drain, a different picture from that offered by the SAT and ACT emerges from the results of the Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test (PSAT/NMSQT), a more meaningful assessment instrument used in part as a measure of college preparedness.

The performance of Wisconsin students in 1987 on the PSAT presented a far less optimistic situation with respect to precollegiate education for bright students, and it continues to do so in 1989.

The PSAT/NMSQT is administered nationally, on a more uniform basis and in a more comparable testing environment than either the ACT or SAT. It has much greater validity as a comparative measure of achievement among college-bound students.

The PSAT examination is an integral part of the National Merit Scholarship Program. A significant number of college-bound juniors from each state participate. They do so to become candidates for a variety of college scholarships and to assist in planning the remainder of their high school education. In 1987, 26,755 Wisconsin juniors or 68% of the state's estimated full-time college-bound population took the PSAT; in 1988, 23,925 Wisconsin juniors or 65% of the state's college-bound population took the PSAT.

Development and administration of the test are handled by Educational Testing Service (ETS) for The College Board and the National Merit Scholarship Corporation, which co-sponsor the PSAT/NMSQT. The National Merit Scholarship Corporation was created in 1955 to conduct the National Merit Scholarship Program and through the bestowing of recognition and the awarding of college scholarship aid, NMSC has advanced significantly the academic abilities of the nation's most promising youth. Today, some 1.4 million participants have received Merit Program recognition; of these students, more than 102,500 met the rigorous standards applied in the selection of merit scholars and won awards worth approximately $310 million. News media have published thousands of success stories identifying distinguished citizens in all 50 states who have been announced as Merit Scholars, providing an incentive to other aspiring students.

The PSAT contains a verbal section and a mathematical section and requires one hour and 40 minutes of testing time. The PSAT/NMSQT measures developed reasoning abilities that relate to academic performance in college. It assesses ability to reason with facts and concepts rather than to recite them. Students are not asked to answer questions about grammar, recall facts from literature, or recognize mathematical formulas; instead, they are presented with verbal and mathematical information and asked to reason with it.

PSAT scores are divided in two sections--verbal (with scores ranging from a low of 20 to a high of 80) and mathematical (with scores ranging from a low of 20 to a high of 80). These scores are used to derive a Selection Index. The Selection Index is two times the verbal scores plus the mathematical score. The Selection Index assists in the determination of approximately 35,000 youth annually as Commended Students and another 15,000 Semi-Finalists. The Selection Index varies by state depending upon the number of high-scoring students within a particular state. Thus, the higher the number of outstanding scores among juniors in a particular state, the higher the Selection Index.

An examination of the Selection Index in the 1988 report, Wisconsin's Internal Brain Drain, for all states in 1986 presented a sharply contrasting situation for those who forward the position of distinguished education for Wisconsin's most academically promising precollegiate youth on the basis of SAT and ACT scores. Among the 50 states and the District of Columbia, only 18 states were ranked lower than Wisconsin on the Preliminary Scholastic Aptitude Test Selection Index. An examination of PSAT Selection Index scores one year later reveal only 20 states ranked lower than Wisconsin (see Illustration 8).

In Wisconsin, the pattern which emerges from contrasting in-state and out-of-state results of the SAT and ACT with the PSAT examinations suggests far less of a superior academic preparedness among the majority of youth than that represented by those who refer principally to SAT and ACT results.

In addition, if one applies to Wisconsin's PSAT scores over the last decade the same logistical analysis as that applied in the 1988 Minnesota report, High School Preparation, here, as in the case of the SAT and the ACT, Wisconsin's historic advantage for quality education is shrinking.

From 1979 to 1989 Wisconsin PSAT verbal scores decreased by .7 while the national score increased by .4; the state PSAT mathematical scores decreased by 1.5 while the national scores increased by .3 (see Illustration 9).

Again, caution must of course be exercised with regard to summarizing data such as that given here for the SATs, ACTs and PSATs. The data may not be appropriate measures of overall performance of teachers, schools, educational systems or states. However, such justifiable warning from the testing services which administer the SAT, ACT and PSAT does not exclude judicious comparisons which may reveal patterns for closer scrutiny. And, as stated above, prominent state officials themselves violate the warnings of the test producers and cite standardized tests as sole indicators of overall educational quality, thus inviting examination.

In Wisconsin, the pattern which emerges from contrasting in-state and out-of-state results of the SAT and ACT with the PSAT examinations not only continues to suggest, as in the 1988 report, Wisconsin's Internal Brain Drain, far less of a superior academic preparedness among the majority of youth than that normally represented to the public, but also what should be the most alarming--a clear pattern of the state's shrinking advantage over time on all three nationally standardized examinations.

When this initial probe of Wisconsin's academic preparedness of its youth, to include its best and brightest precollegiate youth, is now combined with further analysis that extends well beyond standardized test scores, the ability and conviction of Wisconsin's educational system to accommodate its talented youth remains as much in doubt as it did when the 1988 report, Wisconsin's Internal Brain Drain, charged the state leadership with complacency in the face of a fundamental and deep-rooted "brain drain", one which Wisconsin appears not to understand, to accept or be willing to combat.

PSAT - SELECTION INDEX SCORES

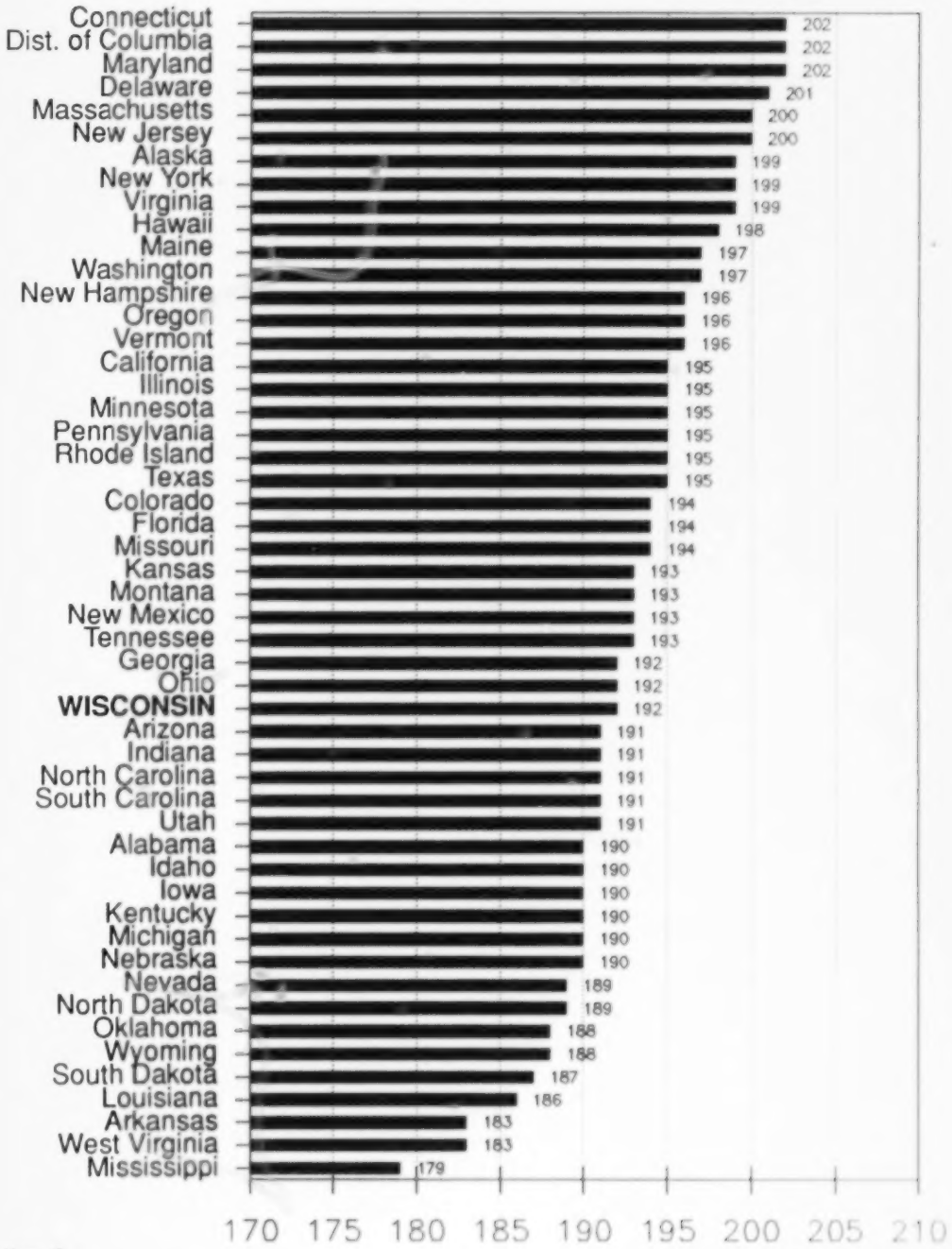


Illustration 8

Compiled from:
Information prepared by
The College Board
Midwestern Regional Office

PSAT/NMSQT SCORES--College-bound Juniors

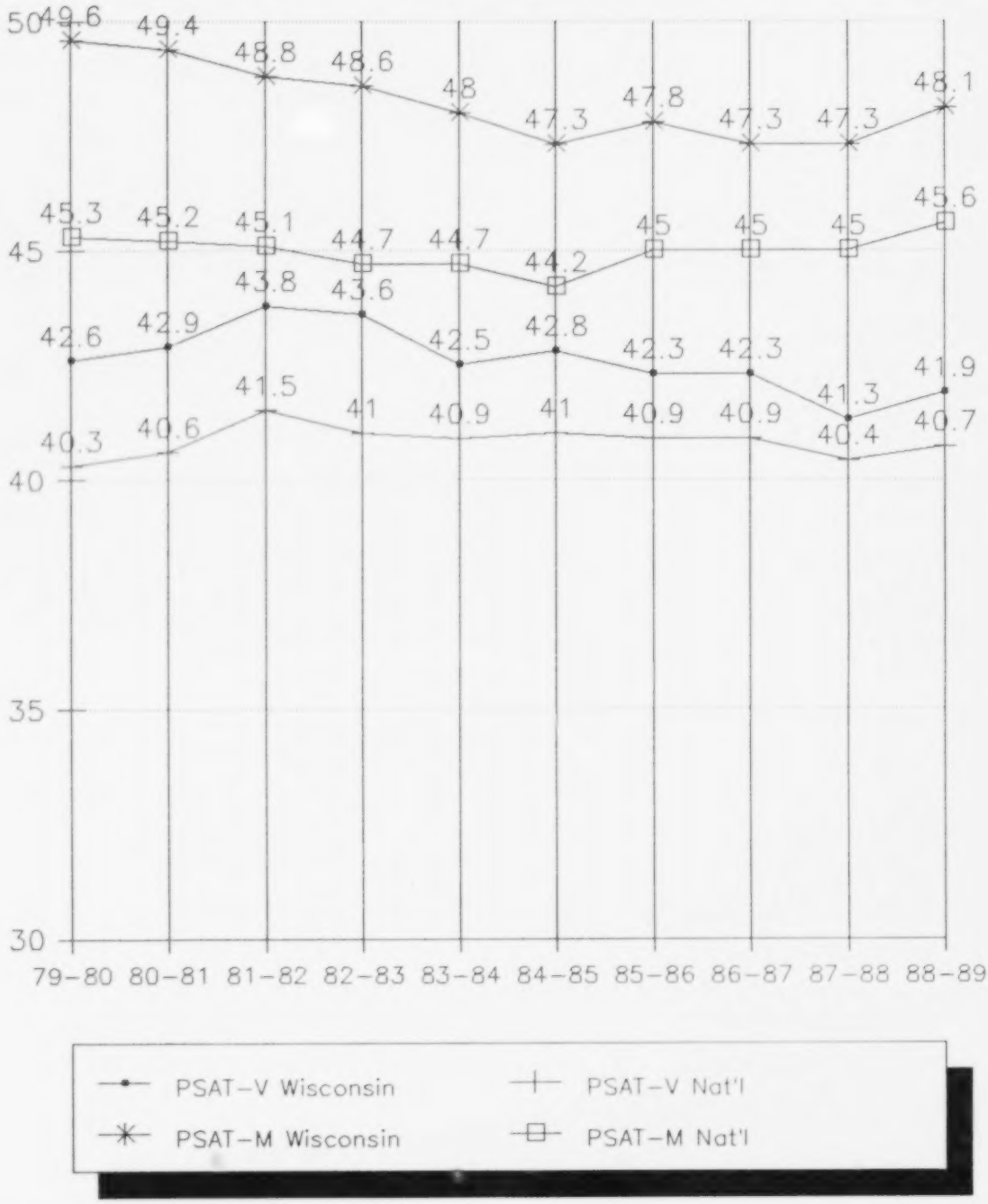


Illustration 9

Compiled from:
Information prepared by
The College Board
Midwestern Regional Office

SECTION THREE

MEASURES FOR HIGH QUALITY AMONG COLLEGE-BOUND CHILDREN AND YOUTH: A WISCONSIN CONTEXT

In the 1988 report, Wisconsin's Internal Brain Drain, a profile of the state's service to advancing academic talent was sought in its commitment to the national "educational reform movement" or the "school improvement effort." It was stated that:

> While a complete evaluation of the success or failure of the educational reform movement is still forthcoming, an assessment of Wisconsin's commitment to a suggested "rising tide of mediocrity", especially with regard to its college-bound graduates, among them its best and brightest precollegiate youth, can be considered by the level of its involvement in such elements of the drive for quality as:
>
> - The College Board Advanced Placement Program
> - Gifted and Talented Programs, and
> - School restructuring initiatives and incentive programs, to include school-college partnerships and residential high schools.

In once again reviewing these measures for advancing high quality among college-bound children and youth in Wisconsin, not all areas treated in the 1988 report will be studied in detail. Some areas, such as the establishment of a residential honors high school, have registered no demonstrable change in status over the year period. Other areas, such as the Advanced Placement Program, school-college partnerships and the state-level gifted and talented effort are the subject of considerable attention. In addition, other areas for examination--such as Wisconsin's participation in national academic competitions--suggest themselves in 1989 as further topics for discussion.

These elements will, as in 1988, be considered in such a way as to compare Wisconsin with selected other states, specifically neighboring ones.

The College Board Advanced Placement Program

The Advanced Placement (AP) Program was begun 33 years ago as a cooperative educational endeavor sponsored by The College Board. Based on the fact that many young people can complete college-level studies in their secondary schools, it represents a desire of schools and colleges to foster such experiences. Like other programs of The College Board, this program is national, its policies are determined by representatives of member institutions, and its operational services are provided by Educational Testing Service.

Advanced Placement serves three groups: students who wish to pursue college-level studies while still in secondary school, schools that desire to offer these opportunities, and colleges that wish to encourage and recognize such achievement. It does this by providing practical descriptions of college-level courses to interested schools and the results of examinations based on these descriptions to the colleges of the students' choices. Participating colleges grant credit and/or appropriate placement to students who do well. Thus, the Advanced Placement Program extends the educational opportunities available to students by effectively relating college-level courses at thousands of schools to appropriate credit and placement at the colleges that students eventually attend.

At present, Advanced Placement course descriptions, examinations, and curricular materials are available in art, biology, chemistry, computer science, economics, English, French,

German, government and politics, history, Latin, mathematics, music, physics and Spanish.

Through the Advanced Placement Program, high schools establish a reputation for teaching rigorous academic subjects, colleges gain well-prepared students, and students develop higher expectations and increased satisfaction based on hard work in school and college.

High school students who participate in Advanced Placement courses tend to do very well in college.

In May 1988 a total of 424,844 students (nationally and internationally) took Advanced Placement examinations. This represents an increase of 55,788 candidates or 15.12% over the number in 1987. In May 1989 a total of 463,171 students took Advanced Placement examinations. This represents an increase of 38,327 candidates, or 9.02% over the number in 1988.

This rapid increase in participation in the Advanced Placement Program is in part attributable to the national concern for the quality of American education provoked by the 1983 report A Nation at Risk: The Imperative for Educational Reform (Washington, D.C., The National Commission on Excellence in Education).

Numerous states are including the demand to offer programs for bright, gifted and motivated students in their steps to ensure quality education. For many states, the Advanced Placement Program is an answer to this demand at the secondary level since it is designed to meet the needs of academically advanced high school students. Several states, including Florida, Alabama and Virginia, have even legislated Advanced Placement initiatives.

Since the 1988 report, Wisconsin's Internal Brain Drain, that decried the state's extremely low record of Advanced Placement candidates as a percentage of high school graduates (2.5%) in comparison to other states, the Wisconsin Department of Public Instruction has been diligent in publicizing its impressive gains in AP participation over the last few years. These increases are highly admirable. For example, Education Forward, a publication of the Department of Public Instruction, in its April 1989 issue contains an article entitled, "Number of Wisconsin students and schools involved in Advanced Placement has increased dramatically." Here it is reported that:

> The number of Wisconsin high school students taking college-level courses through the Advanced Placement program continues to rise, giving more students an advantage in their post-secondary studies.
>
> According to State Superintendent Herbert J. Grover, the number of students taking Advanced Placement examinations in Wisconsin has increased 151 percent over the past five years. During the same period, the number of Wisconsin schools involved in the program has jumped from 57 to more than 100, an increase of 95 percent.

Wisconsin's dramatic increase in recent years (1984-89) in AP participation of examinations and schools is to be applauded; it has far outstripped national increases. From 1984 to 1989 the nation has increased 93.26% in number of examinations taken by students; Wisconsin has increased by 151.50%. From 1984-1989 the nation has increased by 39.69% in the number of schools who have become involved in the AP; Wisconsin has increased by 122.58% (see Illustration 10).

What is not mentioned in these reports, however, is a statistical category included in the national report card or "Wall Chart" by the U. S. Department of Education, Office of

Increases in Advanced Placement Exam and School Participation

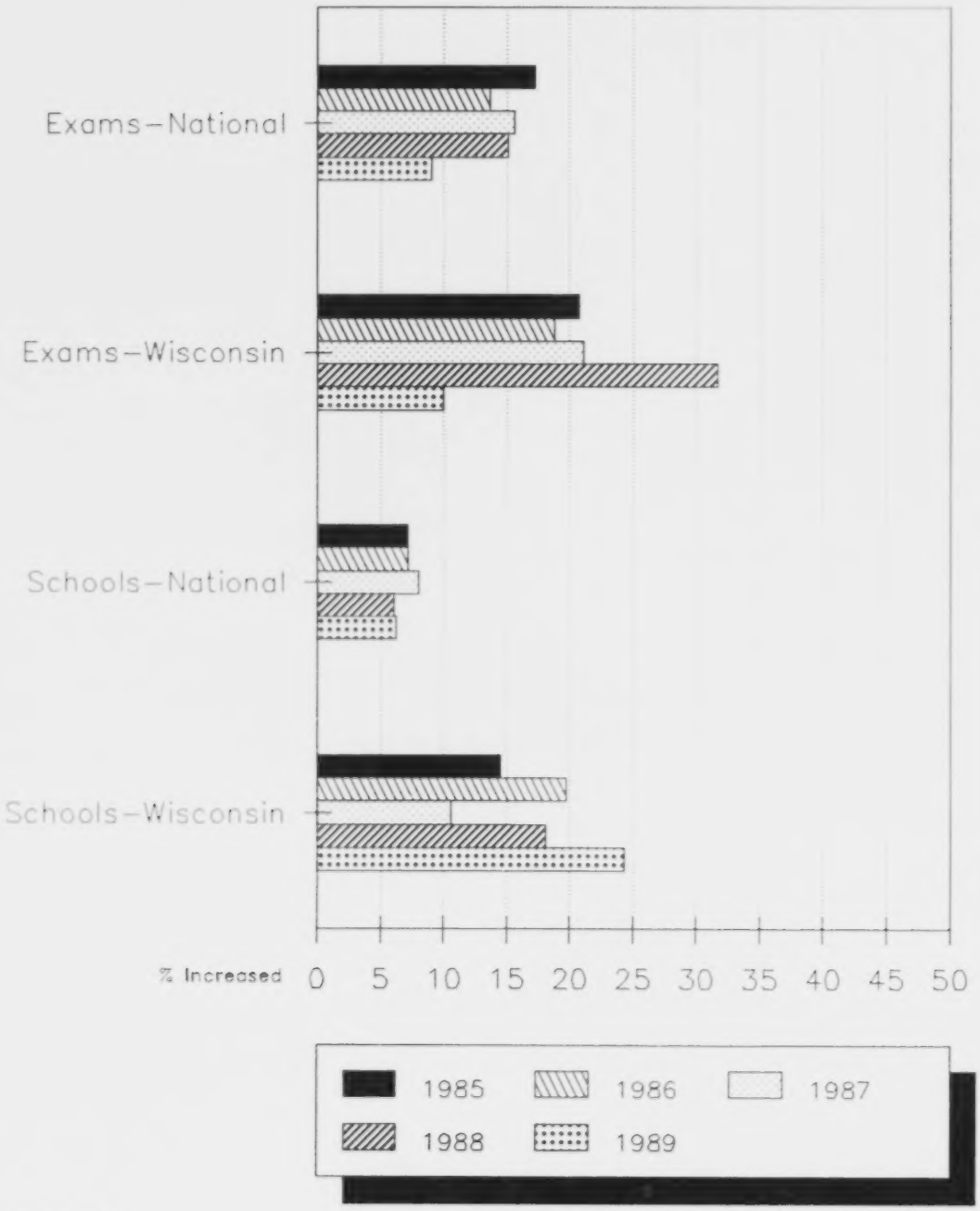


Illustration 10

Compiled from:
Information prepared by
The College Board
Midwestern Regional Office

Planning, Budget and Evaluation, and which resulted in a charge in 1988 in Wisconsin's Internal Brain Drain report that the state's "response [to the AP] is totally inadequate."

Despite the apparently dramatic increases in number of examinations and school participation in the Advanced Placement Program in recent years, Wisconsin, as of 1988, ranks 46th among all states with regard to Advanced Placement candidates as a percent of high school graduates. Only 3.4% of Wisconsin's high school graduates are AP candidates. Only the states of Indiana, Iowa, Arkansas, South Dakota and North Dakota have lower rankings (see Illustration 11). This 46th place ranking was achieved despite a 31.67 increase in examinations and an 18.09% increase in schools from 1987 to 1988. In fact, Wisconsin has actually lost ground nationally in its AP activity measured as a percentage of high school graduate participation since 1982. In 1982 the national percentage of Advanced Placement candidates as a percentage of high school graduates was 4.7% with Wisconsin registering a 1.0%, thereby tying for the 42nd place with Wyoming (see Illustration 11). Therefore, there was a 3.7% differential in 1982 between Wisconsin and the nation. In 1988 the national percentage of Advanced Placement candidates as a percentage of high school graduates is 10.6% with Wisconsin registering a 3.4%, thereby holding a 46th ranking. The differential in 1988 between the nation and Wisconsin is 7.2%, an increased deficit of 3.5% between 1982 and 1988 (see Illustration 12).

What emerges is that the increases that Wisconsin has been recording in recent years with the Advanced Placement Program are indeed dramatic, but they place the state still far below the national average of Advanced Placement candidates as a percentage of high school graduates, much less make it a national leader in this category of commitment to quality education. In fact, Wisconsin's already low status is shrinking even lower in comparison to other states from 1982 to the present.

Gifted and Talented Education

Wisconsin State Government's Commitment to Gifted and Talented Education

In the 1988 report, Wisconsin's Internal Brain Drain, the state was criticized severely for its state-level commitment to gifted and talented education:

> Compared to many states, Wisconsin's commitment to educate its most gifted and talented children in a comprehensive, systematic fashion remains highly questionable. Wisconsin self reports that the greatest strengths of its gifted programs are diversity and local control (in the 1987 State of the State's Gifted and Talented Education Report, issued by The Council of State Directors of Programs for the Gifted). Yet overriding leadership usually comes from state government, and in Wisconsin's case its performance is questionable. Only this year was gifted and talented education in local schools a mandated activity by the Wisconsin legislature, and even this gesture has been rendered insignificant because no state funding accompanied the legislation, excepting the establishment of a full-time state coordinator. New legislation requires that schools throughout the state must have at least a beginning gifted and talented program available within the local districts. Again, money is not available to implement fully this directive. The ability of the state agency to respond efficiently and quickly to inadequacies in the preparation of Wisconsin's bright precollegiate youth is at this moment to be doubted (p. 28).

Following the 1988 report, Wisconsin's Internal Brain Drain, the state has directed considerable attention to establishing a comprehensive agenda for gifted and talented children and youth in the state. Nevertheless, the failure of the state legislature to provide adequate funding to accomplish Department of Public Instruction (DPI) objectives continues

1988 Advanced Placement Candidates

AS PERCENT OF GRADUATES

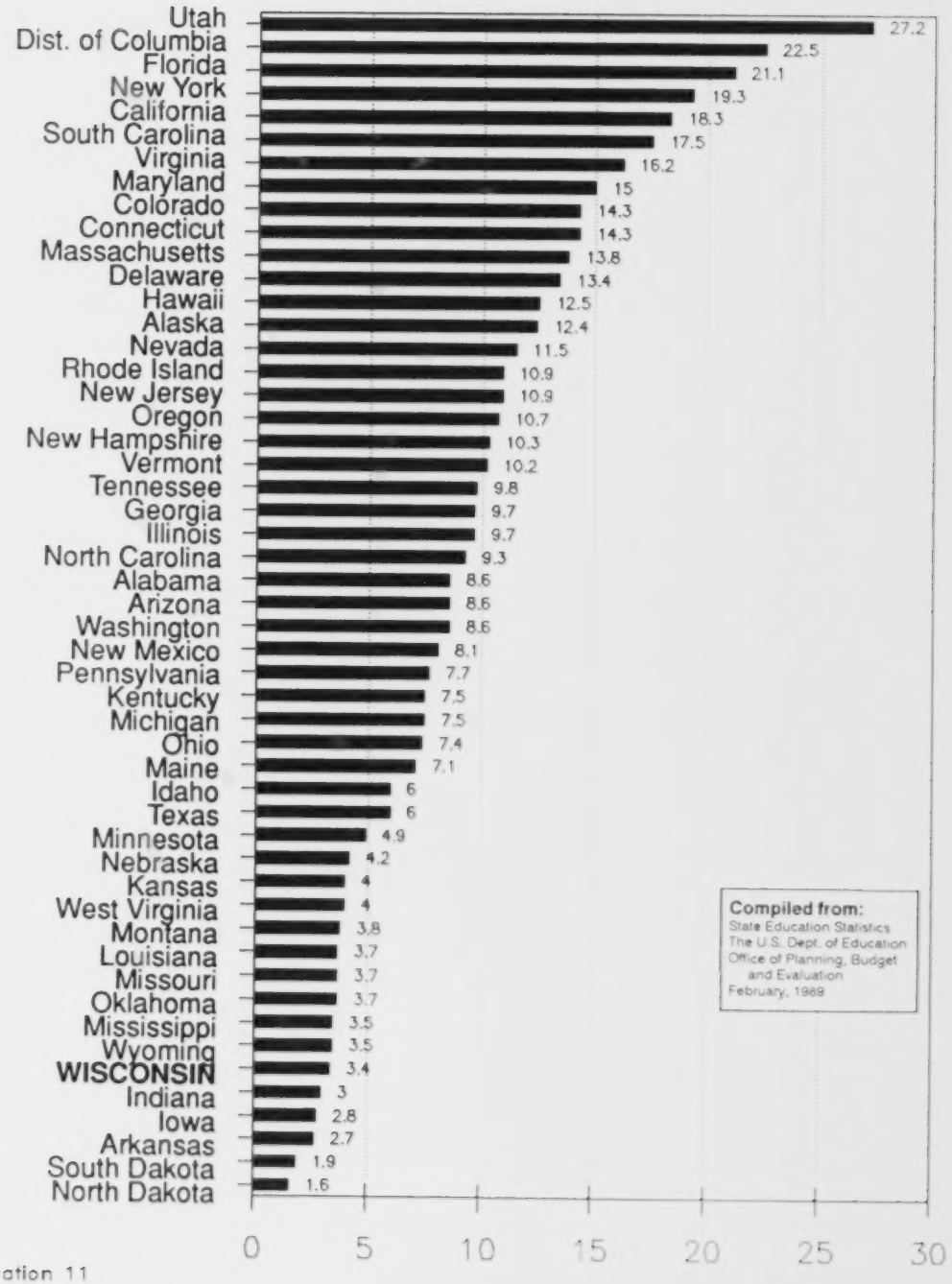


Illustration 11

Advanced Placement Candidate Participation

1982 - 1988

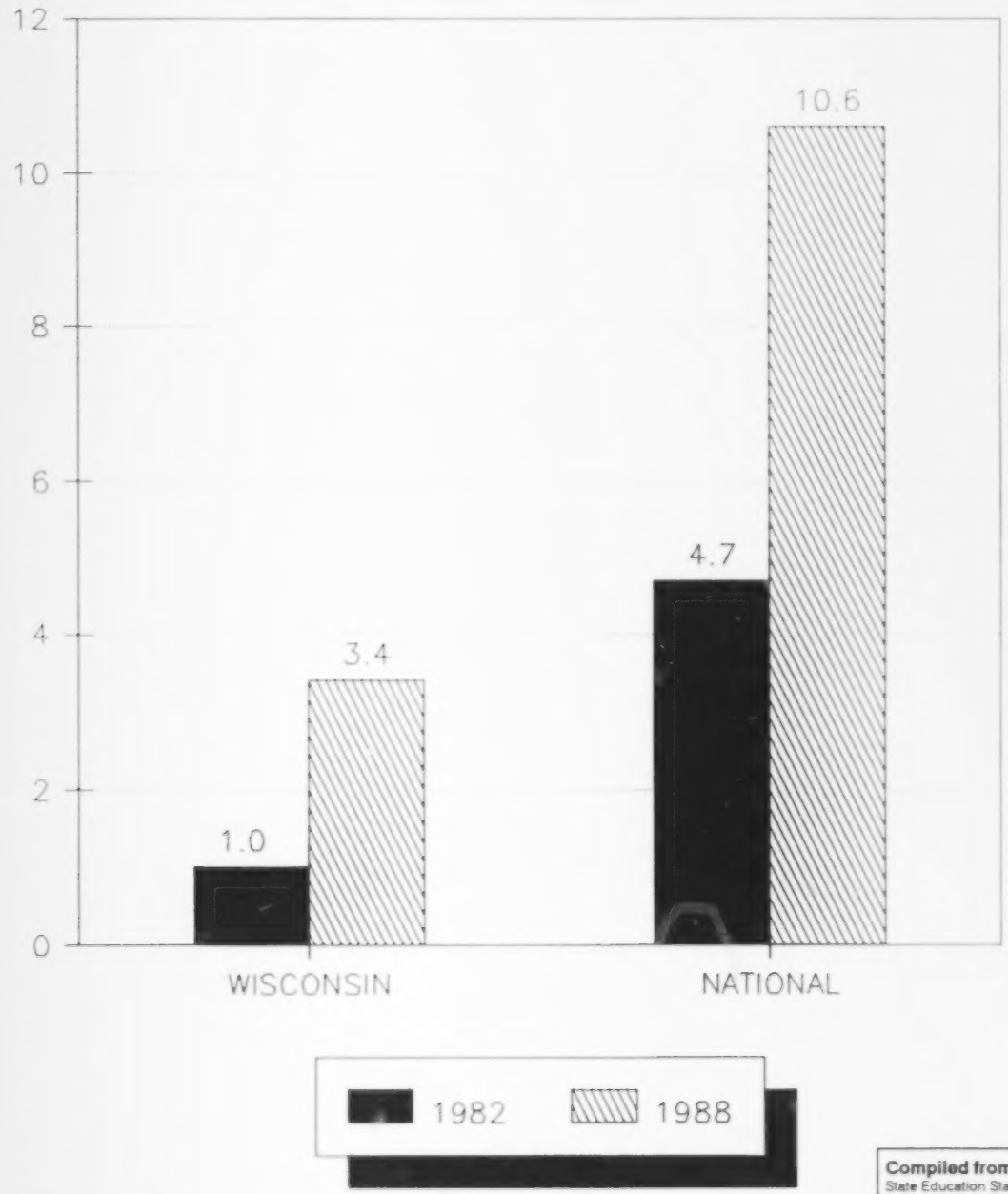


Illustration 12

Compiled from:
State Education Statistics
The U.S. Dept. of Education
Office of Planning, Budget and Evaluation
February, 1989

to place Wisconsin's gifted and talented students at risk and perhaps to contribute to their shrinking advantage with similarly bright students nationally.

An April 1989 publication of Wisconsin's Department of Public Instruction states that a 1984 statewide survey recognized the need for coordinated gifted and talented programming in Wisconsin, and a 1987 nationwide survey further recognized Wisconsin's delay compared with other states in funding appropriate programs for potentially gifted students. Although some districts already have some elements of model programming in place, financial constraints have left others struggling to identify and serve their gifted and talented students. The Wisconsin Legislature recognized the state's obligation to challenge gifted and talented students when it adopted the 20 educational standards. Standard (t) requires each school district to provide access to an appropriate program for students identified as gifted. The standard further requires districts to identify students in five areas: intellectual, creative, artistic, leadership, or specific academic areas.

In fall 1987, the DPI distributed the publication Gifted and Talented Students: A Step-by-Step Approach to Programming to all Wisconsin school districts to assist them in meeting Standard (t). The Legislature also approved hiring a state-level consultant to coordinate programs and provide technical assistance and leadership.

Many districts are attempting to meet the needs of gifted and talented students by developing progressive plans to implement system-wide and continuous K-12 programs. However, school officials across the state have voiced a concern about the financial means for providing the support services for a comprehensive K-12 program that extends to all parts of the curriculum.

During 1988-89, the Wisconsin Department of Public Instruction and its Gifted and Talented Consultant, Dr. Ellie Schatz, have devoted considerable time and effort, despite inadequate funding, to advancing a systematic and disciplined approach to advancing bright students. For example:

- Besides WCGT and WAEGT annual conferences which doubled in participation in 1988-89, two invitational conferences were held. On October 23-25, 1988, the Richardson Foundation funded a dissemination conference for eighty key players in the state gifted and talented effort. The Richardson Foundation is supporting a national effort to advance able learners. Over 400 people registered to attend four regional follow-up meetings held in April 1989. On February 12-13, 1989, the Johnson Foundation sponsored a Wisconsin conference on educating able minorities.

- A one-hour in-service radio broadcast on Gifted Programming in Small Rural Districts was held.

- The Wisconsin State Gifted and Talented Consultant and a professor from the University of Wisconsin, Madison, joined representatives of five other states to work on a joint project with support for the Gifted Students Institute (Texas).

- A comprehensive approach to gifted and talented education in Wisconsin was drafted by DPI and entitled "The Wisconsin Integrated Gifted Education Model." In this document, the State Consultant for Gifted/Talented Programs states, "Wisconsin has adopted a pyramid plan for gifted programming, based largely on the research of the Richardson Foundation of Texas (Cox et al., 1985) and the Individualized Programming Planning Model' for blending gifted education with the regular school program (Treffinger, 1986). The model . . . is based on a

foundation of excellence in education throughout the state, i.e., sound regular programs in our Wisconsin schools. It is also built on the premise that we must narrow the gap between educational idealism and reality. Ideally, we intend to develop each individual to his or her fullest potential. In actuality, we frequently accept a level of development commensurate with standard curricular options. The model provides for purposeful planning and monitoring (side 2) of systematic and continuous programming options (side 3) which will better assure equality of opportunity to all students by removing those obstacles which currently limit the individual fulfillment of some. It aims, then, to provide access to appropriately rigorous programming for all students including those without status, wealth, membership in a privileged group or easy access to the rich environmental offerings of an urban or university center . . . The Wisconsin Integrated Gifted Education Model is presented as a philosophical framework which commits the Department of Public Instruction to a disciplined and persistent effort toward the realization of its goal of equality of opportunity for talent development. It supports local school districts in the development of their individual models for excellence and it is hoped that it will ultimately evoke high individual student performances in all areas of valued human endeavor."

The Wisconsin Integrated Gifted Education Model is portrayed representatively (see Illustrations 13 and 14). The model is a most positive effort for providing educators and concerned citizens with a context for educating gifted and talented students. It suffers, however, from a lack of concentrated attention to evaluation, especially that type of rigorous scientific evaluation and study that requires a control group or appropriate comparison group. Such evaluation would permit advocates of gifted and talented education to demonstrate that their efforts do indeed make a quantitative difference in the advancement of youth. Without such rigorous study and evaluation accompanying program implementation, positive effects for various initiatives are claimed but not proved, and specific structures are touted as beneficial for learning but no hard evidence is provided. The hallmark of a distinguished Gifted and Talented Model is the use of scientific designs, measures and methodologies to produce clear tests of the true impact of educational approaches upon young people in various settings. Without such empirical documentation, gifted and talented programs are readily susceptible to criticism and dismissal. The current lack of such definitive control group evaluation in Wisconsin's local gifted and talented programs did not permit the programs to be included as substantive documentation in the 1988 report, Wisconsin's Internal Brain Drain, nor are they admissible in this current report. The local programs and state-sponsored programs in general lack an accompanying evaluation comparable to that outlined above.

Unfortunately, the future success of DPI's comprehensive plan to advance gifted and talented education in Wisconsin is thwarted once again by severely inadequate funding. The DPI's 1989-91 budget requirement to the state legislature sought $5.6 million to: provide competitive grants to school districts, provide competitive grants to establish Regional Resource Centers and enhance state coordination and leadership. A description of each category follows:

1. Competitive Grants
   The department sought $1.5 million in the first year of the 1989-91 biennium and $3 million in the second year to provide seed money to establish new programs, enhance existing programs, demonstrate the comprehensive gifted and talented education model, and focus on special populations. Under this proposal, school districts may apply for competitive grants to supplement local funds for a variety of activities. Among the projects that were intended to be funded were those proposing to:

THE WISCONSIN INTEGRATED GIFTED EDUCATION MODEL

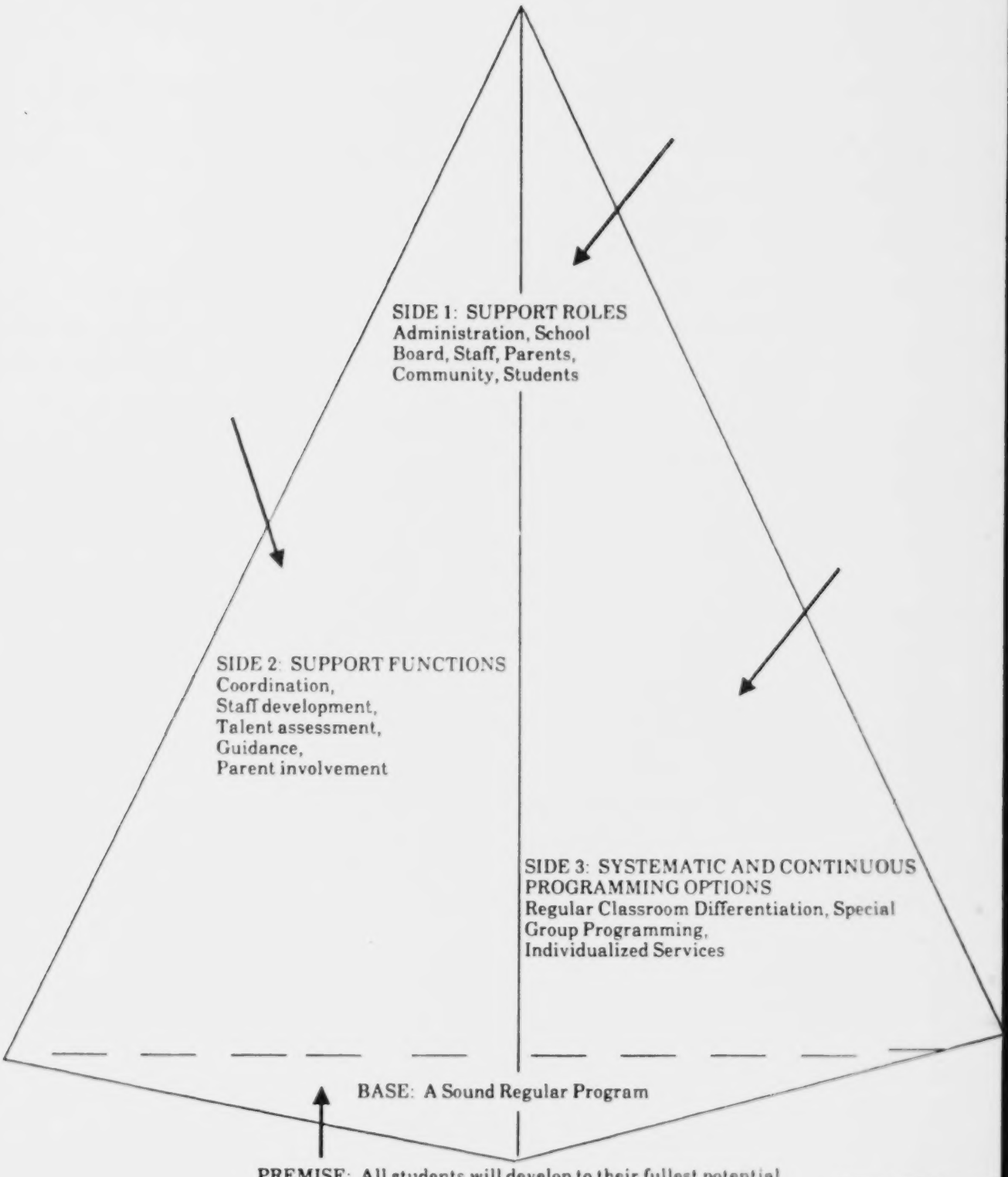
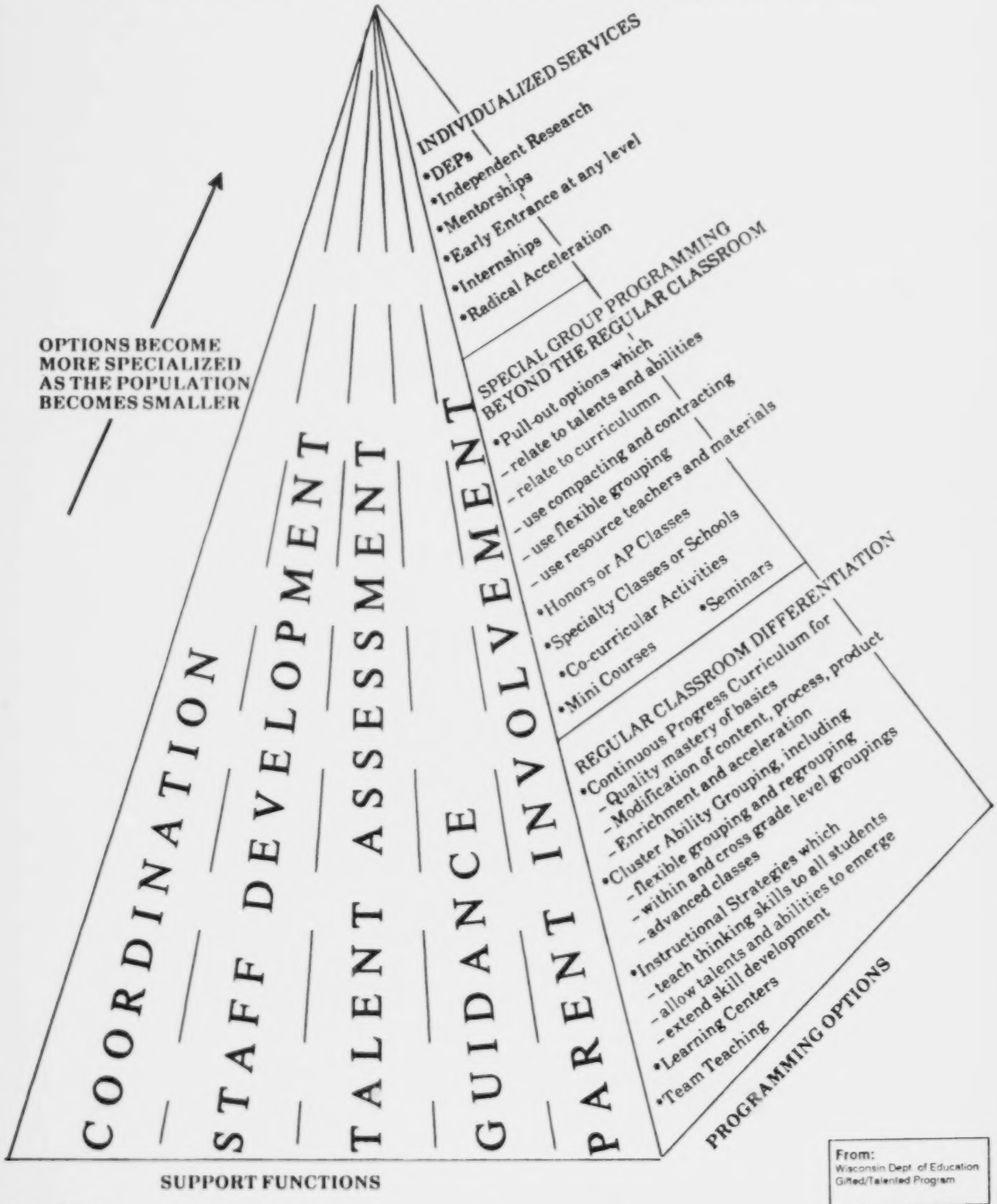

SIDE 1: SUPPORT ROLES
Administration, School Board, Staff, Parents, Community, Students
SIDE 2: SUPPORT FUNCTIONS
Coordination,
Staff development,
Talent assessment,
Guidance,
Parent involvement
SIDE 3: SYSTEMATIC AND CONTINUOUS PROGRAMMING OPTIONS
Regular Classroom Differentiation, Special Group Programming,
Individualized Services
BASE: A Sound Regular Program
PREMISE: All students will develop to their fullest potential

Illustration 13

From:
Wisconsin Dept. of Education
Gifted/Talented Program

THE WISCONSIN INTEGRATED GIFTED EDUCATION MODEL



From:
Wisconsin Dept. of Education
Gifted/Talented Program

Illustration 14

- modify curriculum to ensure systematic and continuous programming
- hire staff to coordinate programming or teach advanced classes
- experiment with lower student/teacher ratios, advancement by achievement rather than by age/grade, or team teaching
- provide staff development activities
- provide specialized guidance for students and parents
- expand participation in national programs including Odyssey of the Mind, Talent Search, Future Problem Solving or Advanced Placement
- use instructional telecommunications to provide specialized programs in cooperation with other districts.

2. Regional Resource Centers
   Under this proposal, the department sought $300,000 in the first year of its 1989-91 budget and $600,000 in the second year to provide grants or contracts for Regional Resource Centers. Centers were to be established by cooperative educational service agencies, universities or colleges or large school districts. The Regional Resource Centers, in cooperation with DPI would:

   - provide in-service training to all districts in the region
   - develop and maintain collections of instructional and staff development materials
   - coordinate shared programs and services
   - assist in the development of community and business partnerships, internship projects or mentor networks.

3. State Coordination and Leadership
   The department requested $100,000 annually to fund state-level projects that would develop curriculum and resource materials and support staff development needs by conducting workshops for regional resource staff members. In addition, the appropriation would help:

   - support adult and student advising councils
   - enhance national program participation
   - coordinate joint university projects.

The Wisconsin Department of Public Instruction therefore proposed $5.6 million for its 1989-91 budget requirement for gifted and talented initiatives. The governor suggested $1.3 million for the effort--a considerably lower amount than DPI. The State Legislature ultimately allocated $500,000 to the effort for 1990-91 under the category of the Learning Assistance Program with no indication of funding in subsequent years. The legislature continues to separately fund summer enrichment programs for the state's youth, but these are not devoted exclusively to gifted and talented students.

This most inadequate funding provided by the Wisconsin State Legislature is astonishing in the face of: (1) claims established in the 1988 report, Wisconsin's Internal Brain Drain, of the state's failing to both develop fully the educational potential of its youth and retain the most talented as future leaders; (2) the current report highlighting Wisconsin's educational shrinking advantage; and (3) the recognition of a representative sample of Wisconsin citizens that all is not well with the state's public education system (see The Lack of Confidence in Public Education in Wisconsin: A Survey of How 3,000 Wisconsin Residents View Public Education in Wisconsin, by Gordon S. Black, April 1989).

The action evidenced by the Wisconsin State Legislature in the face of the initiatives of its own Department of Public Instruction to confront education deficiencies confirms in 1989

the 1988 claim in Wisconsin's Internal Brain Drain that the state is complacent and unimaginative in the face of a sober and threatening educational reality that compromises its future cultural and economic prosperity.

Talent Search and Related Activities

In the 1988 report, Wisconsin's Internal Brain Drain, the state was criticized for its low participation in an opportunity used by all states to advance academic talent--the Talent Search. Wisconsin has readily available to it the services of Northwestern University (Evanston, Illinois) which conducts a regional Talent Search for midwestern states. The Talent Search focuses upon public, independent and parochial sixth- and seventh-graders. The College Board Scholastic Aptitude Test is an integral part of the Talent Search process.

In the 1988 report Wisconsin's participation in the Talent Search was documented as being dramatically lower than neighboring states. For example, in 1985 Wisconsin comprised 5.9% of the applications to Northwestern University's Midwest Talent Search; in 1986, 5.8% and 1987 4.4%. In contrast, Indiana comprised 28.8% in 1985 and 1986 and 24.8% in 1987. Michigan - 36.8% in 1985, 35% in 1986; and Ohio 24.6% in 1985, 26.5% in 1986 and 28.2% in 1987.

Following the publication of the 1988 report, Wisconsin's Internal Brain Drain, the state's Department of Public Instruction and its consultant for Gifted/Talented Education have devoted considerable time and effort to expanding accessibility and support to the Midwest Talent Search for Wisconsin's youth. Northwestern University itself hired a Midwest Talent Search liaison for Wisconsin who has been working closely with the State Consultant. The University of Wisconsin-Madison, the Wisconsin Association of Education of Gifted and Talented, Wisconsin Council for Gifted and Talented and Wisconsin Department of Public Instruction sponsored on May 22, 1989 the first Wisconsin Talent Search Awards Ceremony at the University of Wisconsin-Madison. The Wisconsin Power and Light of Madison, a long-time supporter of gifted and talented education, provided a $3,000 grant to fund the event.

One hundred and five academically talented sixth-, seventh-, and eighth-grade students and their families attended the program. A demonstration of the magic of chemistry was presented, followed by a banquet and awards program. State Superintendent Herbert J. Grover and UW-Madison Chancellor Donna Shalala spoke during the awards program. Each student received a certificate and medal. The special effort expended by the DPI to encourage participation in the Midwest Talent Search resulted in a significant level of increased participation. Participation rose from 4.4% last year to 7.4% this year. In increasing its percentage of participation by 3% in one year, Wisconsin, at least in the category of Talent Search, is increasing its educational advantage in comparison to other states. For example, with reference to those neighboring states of Indiana, Michigan and Ohio, only one increased as had Wisconsin (the others decreased) and that state increased by only 1.1%. Nevertheless, despite this excellent improvement in participation, Wisconsin has to expend in the future considerable resources and effort to be competitive with neighboring states.

In modest (but nevertheless constructive) ways, Wisconsin also appears to be taking steps to introduce rigorous school initiatives that can grow from involvement in the Talent Search and related organizations. For example, the University of Wisconsin-Eau Claire runs an accelerated mathematics program for precollegiate youth patterned after the original Talent Search effort at The Johns Hopkins University. In addition, the Cooperative Educational Service Agency (CESA) II in Cumberland is piloting a new project aimed at providing rigorous mathematics instruction appropriate to gifted and talented students in grades 7-9.

The program is a unique collaborative effort between CESA II and the DPI Gifted and Talented Education Consultant, Dr. Ellie Schatz, the University of Wisconsin-River Falls, and several school districts. The project is based on the National Diffusion Network's Academically Talented Youth Program (ATYP), developed by Kalamazoo (Michigan) College, which in turn was based on Talent Search curricular strategies.

ATYP is a model for K-12/higher education cooperation that provides accelerated mathematics instruction to students in grades 7-9 who have superior mathematical reasoning skills. According to Dr. Carol R. McCarthy, ATYP director, "High-ability math students at this level are usually mathematically out of sync with their school-age peers, the school curriculum and traditional teaching methods. It is very difficult to appropriately serve these students in the regular math classroom."

ATYP brings high-ability mathematics students together in a homogeneous classroom group for appropriate mathematics instruction. These students respond to the challenge--as they are taught more, they learn more. This has been shown by several related studies in which ATYP students learned two years of algebra content in one-fourth the time teachers usually allow.

Several aspects of ATYP contribute to its success and deserve elaboration:

- Eligible students are identified through a specific two-step process (often the Talent Search)
- Outstanding educators--often college or university faculty--serve as program instructors
- Instruction occurs during the normal school day and year
- The program emphasizes pacing, acceleration, conceptual understanding and homework
- Teachers regularly assess students to document their progress and mastery of content
- Students are grouped with peers of similar age and ability
- The home school grants grades and credits
- The home school and participating postsecondary institution share expenses
- Instruction targets the students' specific needs

The effort also contains a pre- and post-testing component that permits educators to empirically evaluate how much knowledge of a subject a child has gained by participation in the program and thus meet requirements of appropriate scientific assessment related to gifted/talented programming.

There are also a myriad of DPI-sponsored opportunities and University of Wisconsin Programs not modeled on the talent search concept. Many of these efforts, however, are not devoted exclusively to students with demonstrated high ability, and the programs suffer frequently from the absence of empirical evaluation and scientific study.

National Academic Competitions

Another vital indicator of educational vitality and strength of an educational system is the engagement of its students in demanding national and international academic competitions. The 1988 report, Wisconsin's Internal Brain Drain, did not treat the state and academic competitions. However, consideration of selected competitions are instructive at this point. Two competitions will be examined--MATHCOUNTS and the Westinghouse Science Talent Search.

MATHCOUNTS is a program for seventh- and eighth-graders. Information about the competition is sent to all schools in the United States, other U. S. related territories such as the Virgin Islands and Puerto Rico and all U. S. Department of State American-sponsored Overseas Schools and Department of Defense Dependent Schools. In 1987, for example, 40,000 schools participated in the competition. The purpose of MATHCOUNTS is to encourage as many young students as possible to participate and in so doing to encourage both their thinking about math and the interest in the subject.

In February of each year all schools--through individual and team entries--participate in local written and oral examinations. Team winners from the various locations then proceed in a state competition. The top four individual winners from the respective states then proceed in a national competition. Despite claims of a superior education for Wisconsin youth in comparison to other states, the state has not fared particularly well in the MATHCOUNTS, an indication of academic competition. In the Individual Competition Wisconsin had among the top 50 winners in 1985 one winner in 42nd place; in 1986, no winners; in 1987, one winner in 36th place; in 1988, no winners and in 1989, one winner in 20th place. With regard to Team Competition, among the 50 states, Wisconsin ranked 26th in 1985, 31st in 1986, 19th in 1987, 1988 and 1989.

The Westinghouse Science Talent Search is designed to discover and develop scientific and engineering ability among high school seniors and is conducted annually for the Westinghouse Science Scholarships and Awards by Science Service, Washington, D. C. Since 1980, initial contestants have ranged from 13,000-20,000 with some 900-1,500 annually completing their entries by writing a report on their science project, submitting personal data and teacher recommendations. Each year 40 young high school students are invited to Washington, D. C. to compete for Westinghouse Science Awards to be devoted to a college education. The Grand Prize in 1988 was $20,000. From 1980 to 1989 Wisconsin had one invitee to the final round in seven of the 10 annual competitions. It has had no invitees in three of the 10 years. What is striking about Wisconsin's representation in this final round of Westinghouse competition is that all the young people have come from one city--Madison, Wisconsin and from only two high schools within that city--James Madison Memorial High School and Centennial High School. This exclusive localization of talent, as witnessed in the Westinghouse final round, is in striking contrast to other states where the talent pool is more widely dispersed throughout the state. Even New York State, historically known for its strong showing in the Westinghouse competition among its New York City public high schools, e.g., Stuyvesant High School and Bronx High School of Science, still has additional representation annually from throughout the state.

SECTION FOUR

THE WISCONSIN "EXTERNAL" BRAIN DRAIN-- HOW SIGNIFICANT STILL?

In the context of examining the quality of Wisconsin public precollegiate education, the 1988 report, Wisconsin's Internal Brain Drain, examined the persistently heard claim that the state suffers from corresponding "external" brain drain--the flight of the state's best students to higher education in other states. Often, these students do not return as mature adults to engage decisively in Wisconsin's social and economic future. There were also accusations registered that the University of Wisconsin system does not effectively recruit and retain Wisconsin's best high school graduates.

While the 1988 report examined suggestive data underscoring an "external" brain drain (see Wisconsin's Internal Brain Drain, pp. 44-46), a more definitive answer to the issue was awaiting the completion of a study devoted exclusively to the collegiate choice of Wisconsin's brightest students conducted by Professor Philip A. Perrone at the University of Wisconsin-Madison. Early surveys had been less focused on this target population. The survey objectives were three-fold:

1. To determine where the highest achieving and highest test performers planned to go to college; when they decided; and what influenced their decision.
2. To determine student's estimate of college costs and how they intend to meet their costs.
3. To determine what these students attribute their academic success to and ascertain the extent of their extra-curricular activity and part-time work.

Results of this critical study are now available and have appeared in The Wisconsin Counselor (Winter 1989) in an article entitled "Post High School Plans of Wisconsin's Top 1988 High School Graduates."

The target population for the study and the procedure for collecting data were specified. Directors of guidance in 337 public high schools and 60 private high schools graduating fewer than 250 seniors were asked to have their top two graduates and ties respond to a four-page questionnaire. In the 83 public high schools graduating more than 250 seniors, guidance directors were asked to have the top five graduates and ties respond. Merit semi-finalists and finalists, two students with the highest ACT scores and any All State Scholars and nominees who were not highly ranked were also asked to complete the questionnaire. In high schools with at least 10% minority population, the two minority students with the highest grade point averages completed the questionnaire, even if they were not highly ranked.

Three hundred and eighteen (78%) of the public high schools responded to the initial mailing. Follow-up phone calls to the remaining 102 high schools resulted in 69 more schools responding, a 92% participation rate. Two large public high schools (representing 10 students) and 26 smaller public high schools (representing 52 students) chose not to participate. Among the 60 private high schools, 38 responded to the mailed request, and an additional nine responded to follow-up phone calls, culminating in a 78% participation rate. Twenty-six private school graduates are not represented. A total of 1,728 students participated, and 1,724 returns are usable.

A number of conclusions resulting from the survey of the most academically outstanding graduates of the class of 1988 are pertinent for the issue of the external brain drain:

- the larger the high school, the greater the likelihood of a student going out of state.
- in a separate survey mentioned in the Perrone article and conducted by students in an educational administration class at the University of Wisconsin-Madison, recipients of Robert C. Byrd Scholarships indicated in most cases the awards were received after they had made their college choice and that the $1,500 was not much money because of the four-year cost of college and of the financial packages offered by out-of-state colleges.
- At the time of the Perrone survey 18% of the seniors intended to attend out-of-state institutions (public and private); 46.6% intended to attend Wisconsin colleges and universities (public and private); and, 21.6% were undecided. The remaining percentage was yet to be assigned.
- Undecided seniors typically scored highest on the SAT and ACT math tests, had 4.0 grade point averages, were less certain regarding their college careers and received considerable attention from out-of-state colleges.
- Outstanding Wisconsin high school seniors receive considerably more attention from out-of-state colleges, followed by private, in-state colleges.

In summarizing the results of his study, Professor Perrone registered some disparate comments that also pertain to the issue of the question of an "internal" and "external" brain drain:

- "It is not possible to determine whether the profile of Wisconsin's 1988 academically talented seniors typifies previous and subsequent classes. This kind of comprehensive survey needs to be undertaken on a regular basis. I have directed or co-directed three major surveys undertaken in Wisconsin during the past twenty years and each time securing funds has proven nearly impossible. This particular project was funded largely by $2,000 of my personal money and $5,000 of departmental administered funds" (p. 13).

- In a situation where 59% of students indicated that helpful professors were a primary reason for choosing a particular college, the University of Wisconsin-Madison faculty was perceived as the "least friendly" by far.

- "Only about 60% of these students take the ACT, and less than a third take the SAT. Failure to take one of these admissions tests , and a large number did not take either one, seems to restrict their college options. Males score higher on both the ACT and SAT math tests than females, and I am concerned that both ACT and SAT English scores are significantly lower than math scores for these students as well as for all Wisconsin students" (emphasis added) (p. 13).

- "Lastly, seniors with good grades and high scores on college admissions tests should be encouraged to attend a college which best meets their personal and career needs whether it be in Wisconsin, the United States, or a foreign country. Wisconsin's higher education system should compete for the best students throughout the United States. The system has not 'failed' if in making well-informed choices, a large number of academically talented students do not choose to attend a college within the University system. The system has failed if it has not paid equal attention to these students nor provided them with incentives equal to those of out-of-state colleges" (p. 14).

In summary then, the author of the report examining the college choices of Wisconsin's academically most accomplished graduates of the class of 1988 reaches the following

conclusions which directly underscore an evaluation of Wisconsin's complacency towards advancing and retaining top academic ability in its youth:

- A complacency evidenced by a lack of sustained financial support to examine annually and in depth Wisconsin high school graduates, in particular, its most talented ones.
- An implicit complacency by a registered "lack of friendliness" of the University of Wisconsin-Madison faculty--the state's flagship institution--among the state's most academically outstanding precollegiate students.
- A shrinking advantage in college admission opportunities, attributed to an insufficient number of students taking the ACT and SAT, and a shrinking advantage among bright students caused by a marked deficiency in the verbal portions of standardized college preparatory examinations.

The author of this current report concurs with Professor Perrone that a perceived "external" brain drain--talented high school graduates leaving the state for university study--is in itself not a disastrous situation. It is an unfortunate situation, however, if the state's Public System of Higher Education does not choose to compete for these bright students nor to balance the out-of-state exodus by attracting the brightest students from other states with attractive academic and financial (scholarship aid) incentives.

The position taken in this presentation and that perhaps is unintentionally underscored by Professor Perrone in his reference to the diminished higher education opportunities created by an insufficient number of students taking the ACT and SAT and among those who do, a marked deficiency in the verbal areas, is that the state is threatened by a fundamental and deep-rooted "brain drain," one of which the state in 1989 still appears unknowing or unwilling to face with all its available resources. Like a land mass gradually eroding, Wisconsin's historic educational advantage at the precollegiate level--in the performance of its students and in the confidence of the public in its effort--slips away. The threat is an internal "brain drain" and shrinking advantage occurring much earlier than university study and systematically restricting a high proportion of Wisconsin's bright and talented youth to the unspent development of their talents and abilities. By the time university study is a possibility the damage has been done. Through a lack of directed and sustained attention to the precollegiate level of education, the maximum number of bright youth who could potentially contribute to the enhancement of the social, cultural and economical climate and development of the state and who could become its most talented citizens, are already rendered unprepared for the challenges they will face.

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The Wisconsin Policy Research Institute is a not-for-profit institute established to study public policy issues affecting the state of Wisconsin.

Under the new federalism, government policy increasingly is made at the state and local level. These public policy decisions affect the lives of every citizen in the state of Wisconsin. Our goal is to provide nonpartisan research on key issues that affect citizens living in Wisconsin so that their elected representatives are able to make informed decisions to improve the quality of life and future of the State.

Our major priority is to improve the accountability of Wisconsin's government. State and local government must be responsive to the citizens of Wisconsin in terms of the programs they devise and the tax money they spend. Accountability should be made available in every major area to which Wisconsin devotes the public's funds.

The agenda for the Institute's activities will direct attention and resources to study the following issues: education; welfare and social services; criminal justice; taxes and spending; and economic development.

We believe that the views of the citizens of Wisconsin should guide the decisions of government officials. To help accomplish this, we will conduct semi-annual public opinion polls that are structured to enable the citizens of Wisconsin to inform government officials about how they view major statewide issues. These polls will be disseminated through the media and be made available to the general public and to the legislative and executive branches of State government. It is essential that elected officials remember that all the programs established and all the money spent comes from the citizens of the State of Wisconsin and is made available through their taxes. Public policy should reflect the real needs and concerns of all the citizens of Wisconsin and not those of specific special interest groups.